

GENERAL NOTES

- 1. ALL WATER UTILITY CONSTRUCTION TO CONFORM TO AAC R18-5-502 AND AAC R18-4-119 WATER SYSTEM STANDARDS, ADEQ BULLETIN 10, LAKE HAVASU CITY STANDARDS AND SPECIFICATIONS, MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) STANDARD SPECIFICATIONS AND DETAILS UNLESS SPECIFICALLY MODIFIED ON THE PLANS.
2. THE OWNER SHALL BE NOTIFIED A MINIMUM OF 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION.
3. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE AND APPROVAL BY THE OWNER OR ENGINEER AND/OR ALL WORK MATERIAL NOT IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS IS SUBJECT TO REMOVAL AT THE CONTRACTOR'S EXPENSE.
4. NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURBS, PAVEMENT AND SIDEWALKS (NEW AND EXISTING) HAVE BEEN SWEEP CLEAN OF ALL DIRT AND DEBRIS.
5. THE CONTRACTOR SHALL KEEP SUITABLE EQUIPMENT ON HAND AT THE JOBSITE FOR MAINTENANCE DUST CONTROL, AND SHALL CONTROL DUST IN ACCORDANCE WITH CITY SPECIFICATIONS.
6. ASPHALT CONCRETE SHALL NOT BE PLACED ON SUBGRADE UNTIL SUBGRADE REQUIREMENTS HAVE BEEN COMPLETED PER THE PROJECT SPECIFICATIONS BY THE CONTRACTOR.
7. BACKFILL COMPACTION SHALL BE TYPE 1 (MAG 601) UNLESS OTHERWISE NOTED PER LHC STD DETAILS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TRAFFIC CONTROL PLANS AS PART OF THE SUBMITTAL REVIEW REQUEST TO THE ENGINEER FOR APPROVAL NO LATER THAN 30 CALENDAR DAYS PRIOR TO THE PLANNED CONSTRUCTION IN THE AREA OF THE WORK, EXCEPT IN EMERGENCIES. ALL TRAFFIC CONTROL DEVICES SHALL BE WELL MAINTAINED AND COMPLY WITH ALL PERFORMANCE REQUIREMENTS WITHIN THE MUTCD AND THE LATEST REVISIONS THEREOF. NO STREET IS TO BE CLOSED, RESTRICTED, OR CONSTRUCTED UPON UNTIL A TRAFFIC PLAN IS APPROVED. CONTRACTOR SHALL MAINTAIN A MINIMUM ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES OR AS NOTED IN THE SPECIFICATIONS.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF MAG AND THE CITY OF LAKE HAVASU STANDARDS, SPECIFICATIONS, AND DETAILS AS WELL AS ALL OTHER STANDARDS AND SPECIFICATIONS NECESSARY TO COMPLETELY AND ACCURATELY INTERPRET THESE PLANS.
10. REMOVAL OF STRUCTURES AND OBSTRUCTIONS AS NECESSARY TO COMPLETE THE WORK, OTHER THAN OR NOT OF SPECIFICALLY SCHEDULED IN THE BID, IS INCIDENTAL TO THE CONTRACT. NO SEPARATE MEASUREMENT OF PAYMENT FOR UNSCHEDULED REMOVAL ITEMS WILL BE MADE.
11. CONSTRUCTION STAKING SHALL BE BY THE CONTRACTOR'S SURVEYOR WITH CONTROL PROVIDED WITHIN THE CONTRACT DOCUMENTS.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW THE MINIMUM COVER SHOWN WITH EXCEPTION TO THE LOCATIONS WHERE CONNECTING TO EXISTING MAIN LINE. ANY CHANGES MUST BE APPROVED BY ENGINEER.
13. THE OWNER RESERVES THE RIGHT TO ORDER ANY OR ALL WORKMANSHIP AND MATERIALS TO BE TESTED ACCORDING TO APPLICABLE STANDARDS.
14. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL REWORK AND/OR REMOVAL AND REPLACEMENT OF ALL MATERIALS AND/OR WORKMANSHIP REPRESENTED BY A FAILING TEST.
15. IN ACCORDANCE WITH SPECIFICATION 00800, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS OF TESTING AND QUALITY CONTROL AS DELINEATED IN THE CITY'S PROJECT SPECIFICATIONS. THE COST OF TESTING IS INCIDENTAL TO EACH ITEM OF WORK. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE COSTS OF ANY CITY INSPECTION, AND TIME ASSOCIATED WITH, IF THE CONTRACTOR'S WORK IS BEING PERFORMED IN OVERTIME, AT NIGHT, OR ON WEEKENDS.
16. APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL WRITTEN FINAL ACCEPTANCE OF A COMPLETE AND WORKABLE UNIT.
17. IN ACCORDANCE WITH SPECIFICATION 00700, THE OWNER MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN ITS JUDGEMENT, PROGRESS IS UNSATISFACTORY, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSUITABLE, OR THERE IS A DANGER TO THE PUBLIC HEALTH OR SAFETY.
18. CLEARING AND GRUBBING IS CONSIDERED INCIDENTAL TO THE WORK UNLESS SEPARATELY IDENTIFIED IN THE BID SCHEDULE. NO SEPARATE MEASUREMENT OF OR PAYMENT FOR CLEARING, GRUBBING, AND TREE REMOVAL WILL BE MADE. THE SITE OF ALL EXCAVATION, EMBANKMENTS, AND FILLS SHALL FIRST BE CLEARED OF STUMPS, TRASH, WEEDS, RUBBISH, AND LOOSE BOULDERS WHICH SHALL BE REMOVED AND DISPOSED OF.
19. ALL FINISHED EDGES OF CONCRETE SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE SPECIFIED ON PLANS.
20. IF AC PAVEMENT IS DAMAGED OR CRACKED DURING REMOVAL OF EXISTING CONCRETE DRIVEWAY, THE CONTRACTOR SHALL SAWCUT 12" FROM EDGE OF PAVEMENT. REMOVAL AND REPLACEMENT OF DAMAGED AC PAVEMENT SHALL BE IN KIND AT CONTRACTORS EXPENSE.
21. IF A SECTION OF CONCRETE NOT ADJACENT TO AC PAVEMENT IS REMOVED AND SURROUNDING CONCRETE IS CRACKED OR DAMAGED, CONTRACTOR SHALL REMOVE AND REPLACE IN KIND AT CONTRACTORS EXPENSE.
22. CONCRETE SURFACES TO HAVE A BROOM FINISH UNLESS OTHERWISE NOTED ON THE PLANS.
23. ALL CONCRETE TO BE AT LEAST 4,000 P.S.I. CLASS 'A' PORTLAND CEMENT CONCRETE UNLESS OTHERWISE SPECIFIED ON PLANS.
24. ALL EXPANSION JOINTS SHALL BE FILLED PER MAG STANDARDS.
25. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON VISIBLE FIELD DATA AND AVAILABLE MAP RECORDS. THE CONTRACTOR SHALL CONTACT ARIZONA 811 PRIOR TO ANY EXCAVATION ACTIVITY TO LOCATE THE ACTUAL LOCATION OF ALL UTILITIES. THE CONTRACTOR SHALL BEAR THE COST TO PROTECT ANY AND ALL UTILITIES LOCATED BY BLUESTAKE AND/OR SHOWN ON THE PLANS. ADDITIONALLY, THE CONTRACTOR SHALL TAKE ALL REASONABLE EFFORT AND ACTION TO SATISFY HIMSELF ON THE HORIZONTAL AND VERTICAL LOCATION OF THE EXISTING UTILITIES PRIOR TO TRENCHING. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY CONTRACTOR'S OPERATION SHALL BE REPORTED TO THE UTILITY OWNER IMMEDIATELY AND REPAIRED OR REPLACED AT NO COST TO THE OWNER.
26. IN ACCORDANCE WITH ARIZONA ADMINISTRATIVE CODE, SECTION R18-5-502, "MINIMUM DESIGN CRITERIA", WATER AND SEWER MAINS SHALL BE SEPARATED IN ORDER TO PROTECT PUBLIC WATER SYSTEMS FROM POSSIBLE CONTAMINATION. ALL DISTANCES ARE MEASURED PERPENDICULARLY FROM THE OUTSIDE OF THE SEWER MAIN TO THE OUTSIDE OF THE WATER MAIN. SEPARATION REQUIREMENTS ARE AS FOLLOWS:
26.1. A WATER MAIN SHALL NOT BE PLACED:
26.1.1. WITHIN 6 FEET, HORIZONTAL DISTANCE, AND BELOW 2 FEET, VERTICAL DISTANCE, ABOVE THE TOP OF A SEWER MAIN UNLESS EXTRA PROTECTION IS PROVIDED. EXTRA PROTECTION SHALL CONSIST OF CONSTRUCTING THE SEWER MAIN WITH MECHANICAL JOINT DUCTILE IRON PIPE WITH SLIP JOINT DUCTILE IRON PIPE IF JOINT RESTRAINT IS PROVIDED. ALTERNATE EXTRA PROTECTION SHALL CONSIST OF ENCASEING BOTH THE WATER AND SEWER MAINS IN AT LEAST 6 INCHES OF CONCRETE FOR AT LEAST 10 FEET BEYOND THE AREA OF COVERED BY THE SUBSECTION C(1)(a).
26.1.2. WITHIN 2 FEET HORIZONTALLY AND 2 FEET BELOW THE SEWER MAIN.
26.1.3. NO WATER PIPE SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SEWER MANHOLE. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND MANHOLES SHALL BE 6 FEET, MEASURED FROM THE CENTER OF THE MANHOLE.
26.2. THE MINIMUM SEPARATION BETWEEN FORCE MAINS OR PRESSURE SEWER AND WATER MAINS SHALL BE 2 FEET VERTICALLY AND 6 FEET HORIZONTALLY UNDER ALL CONDITIONS. WHERE A SEWER FORCE MAIN CROSSES ABOVE OR LESS THAN 6 FEET BELOW A WATER LINE, THE SEWER MAIN SHALL BE ENCASED IN A T LEAST 6 INCHES OF CONCRETE OR CONSTRUCTED USING MECHANICAL JOINT DUCTILE IRON PIPE FOR 10 FEET ON EITHER SIDE OF THE WATER MAIN.
27. HORIZONTAL DATUM IS BASED ON THE PUBLISHED 2005 LAKE HAVASU AERIAL MAPPING DATUM. COORDINATES ARE NAD83 (1992 ADJUSTMENT) GEODE 03 MODEL, ARIZONA STATE PLANE WEST ZONE, U.S. FOOT (39.37 DIVIDED BY 12), WITH ADDITIONAL INFORMATION LOCATED IN THE PROJECT CONTROL SECTION.
28. THE CONTRACTOR SHALL LIMIT THE WORK AREA TO PUBLIC RIGHT-OF-WAY AND PERMANENT EASEMENTS AS SHOWN FOR CONSTRUCTION OF THE PROJECT.
29. CONTRACTOR SHALL OBTAIN ANY ADDITIONAL TEMPORARY EASEMENTS OR USE AGREEMENTS THAT ARE DEEMED NECESSARY FOR CONSTRUCTION AT NO ADDITIONAL COST TO THE CITY. COPIES OF ALL CONTRACTOR OBTAINED EASEMENTS AND USE AGREEMENTS SHALL BE PROVIDED TO THE CITY'S REPRESENTATIVE PRIOR TO THE UTILIZATION OF THE SITE.
30. THE CONTRACTOR SHALL GRADE AND RESURFACE ALL AREAS DISTURBED BY CONSTRUCTION. IN ACCORDANCE WITH THE SPECIFICATIONS AND TO A CONDITION EQUAL TO, OR BETTER THAN, THE PRE-CONSTRUCTION CONDITION.
31. THE CONTRACTOR SHALL PROVIDE PROTECTION TO PREVENT UNDERMINING OR DAMAGING THE STRUCTURAL INTEGRITY OF ALL POWER POLES, FENCES, BLOCK WALLS, SCREEN WALLS, RETAINING WALLS, HIGHWAY AND STREET SIGNS, OTHER UTILITY POLES, OR OTHER PRIVATE OR PUBLIC IMPROVEMENTS WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNING UTILITY AS NECESSARY TO PROVIDE TEMPORARY SUPPORT OR PROTECTION DURING CONSTRUCTION WORK, AND SHALL NEATLY REMOVE AND PROMPTLY REPLACE NON UTILITY IMPROVEMENTS WITHOUT UNDUE DISRUPTION. THE COST OF ALL SUCH PROTECTION, REMOVAL, AND REPLACEMENT REQUIRED TO COMPLETE THE PROJECT SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
32. THE CONTRACTOR SHALL TAKE ALL APPROPRIATE STEPS TO MAINTAIN CONTINUOUS UTILITY SERVICE TO RESIDENTS AND BUSINESSES WITHIN THE PROJECT AREA. MANY EXISTING WATER AND GAS LINES ARE MORE THAN 30 YEARS OLD. PROPOSED METHOD OF CROSSING AND/OR SUPPORT OF UTILITIES SHALL BE APPROVED BY UTILITY OWNER IN ADVANCE OF WORK. MANY LOCAL WATER LINES ARE CONSTRUCTED OF ASBESTOS CEMENT. GAS LINES ARE REPORTED TO BE BRITTLE, SO CLOSE COORDINATION WITH THE UTILITY OWNER'S WILL BE NECESSARY TO AVOID DAMAGE. PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
33. ALL GRAVEL DRIVES AND GRAVEL ROADS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH A MINIMUM OF SIX INCHES (6") OF GRANULAR BACKFILL AS SPECIFIED IN SECTION 02300 AND SHALL BE CONSIDERED SUBSIDIARY TO OTHER PAY ITEMS.

GENERAL NOTES (CONT):

- 34. THE CONTRACTOR SHALL REMOVE ALL FENCING, ASPHALT AND CONCRETE ROADS AND DRIVEWAYS, CURB AND GUTTER, RIP-RAP, LANDSCAPING, DRAINAGE CULVERTS, MAILBOXES, LANDSCAPING AND ASSOCIATED APPURTENANCES AS REQUIRED FOR CONSTRUCTION PURPOSES. ALL ITEMS DAMAGED, REMOVED, OR DISTURBED SHALL BE RESTORED IN ACCORDANCE WITH THE SPECIFICATION TO A CONDITION EQUAL TO, OR BETTER THAN, THEIR CONDITION PRIOR TO THE START OF THE PROJECT. ITEMS OF WORK NOT SPECIFICALLY INCLUDED IN THE MEASUREMENTS AND PAYMENT SECTION OF THE SPECIFICATIONS SHALL BE CONSIDERED SUBSIDIARY AND INCIDENTAL TO OTHER BID ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.
35. IN ACCORDANCE WITH SPECIFICATION 00800, THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO PREVENT EROSION OF MATERIAL FROM THE WORK AREA AND DEPOSITION OF SEDIMENTS INTO WATER COURSES OR DRAINAGE SWALES. THE CONTRACTOR SHALL SUBMIT AN EROSION CONTROL PLAN PRIOR TO THE START OF ANY EXCAVATION. ALL EROSION AND SEDIMENT CONTROL WORK SHALL BE INCIDENTAL TO THE OTHER PAY ITEMS.
36. AERIAL TOPOGRAPHY PERFORMED BY:
MAPCON DATED: DECEMBER 2019
ORIGINAL DOCUMENT BOOK ON FILE AT THE OFFICE OF THE CITY ENGINEER.
37. ALL STREET CENTERLINES HAVE EXISTING PINS AT THE INTERSECTION OF THE STREET CENTERLINES AND SHALL BE PROTECTED IN PLACED. IF A PIN IS DISTURBED OR REMOVED, THE CONTRACTOR SHALL ARRANGE AND PAY FOR AN ARIZONA REGISTERED LAND SURVEYOR TO DETERMINE THE COORDINATES FOR EACH PIN PRIOR TO CONSTRUCTION AND TO REPLACE THE PINS WITH 4 1/2" X 3/8" MAG NAIL WITH WASHER AND SURVEYOR INFORMATION STAMPED ON WASHER TO THE SAME LOCATION AFTER RESURFACING. ALL REQUIRED SURVEY WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE SUBSIDIARY TO OTHER PAY ITEMS.
38. EXISTING WATER VALVES AND MANHOLES HAVE AN 8-INCH THICK CONCRETE COLLAR AT THE PAVEMENT SURFACE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL NEW CONCRETE COLLARS ON NEW MANHOLES AND VALVE BOXES, ALL EXISTING VALVE BOXES AND MANHOLES THAT ARE DISTURBED DURING CONSTRUCTION, AND WHERE THE NEW ASPHALT SURFACE IS PLACED TO AN ELEVATION HIGHER THAN EXISTING VALVE BOX OR MANHOLE COVER. THIS ITEM OF WORK IS SUBSIDIARY TO OTHER PAY ITEMS. ALL VALVE BOXES WITHIN THE DISTURBED PROJECT AREA SHALL BE ADJUSTED IN ACCORDANCE WITH MAG DETAIL 391-1A.
39. ANY AND ALL SOILS, INCLUDING ROCK, ENCOUNTERED DURING EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED AND SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.
40. ANY SHORING REQUIRED SHALL BE CONSIDERED MEANS AND METHODS INCIDENTAL TO OTHER ITEMS OF WORK.
41. CONTRACTOR SHALL SCHEDULE WATER SHUTDOWNS AND SEWER WORK SO AS TO NOT DISRUPT SERVICE TO SCHOOLS, HOSPITALS, DAY CARE FACILITIES, ETC. IN ACCORDANCE WITH ARIZONA STATE LAW.
42. RIGHT-OF-WAY AND PROPERTY LINES SHOWN ON DRAWINGS ARE APPROXIMATE. CONTRACTOR WILL NEED TO FIELD VERIFY LINES PERTAINING TO SCOPED WORK PRIOR TO CONSTRUCTION.
43. ALL RESTRAINED PIPE SHALL BE PER SPECIFICATION 02550 2.7. JOINT RESTRAINTS SHALL BE EBAA IRON SERIES 15PF00 OR EQUAL. ALL JOINT RESTRAINTS SHALL BE DOUBLE POLY WRAPPED & TAPED. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTRAINING ANY NECESSARY BENDS USED WITHIN THE PROJECT LIMITS. CONTRACTOR TO PROVIDE JOINT RESTRAINT PLAN.
44. ALL LANDSCAPING DISTURBED SHALL BE REPLACED AT EQUAL OR BETTER CONDITION THAN EXISTING.
45. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY ALIGNMENT AND DEPTH. THIS WORK SHALL BE INCIDENTAL TO INSTALLATION OF THE WATERLINE.
46. IN ACCORDANCE WITH ADEQ REQUIREMENTS, CONTRACTOR IS RESPONSIBLE FOR PIPE PROTECTION WHERE MINIMUM SEPARATION CANNOT BE MAINTAINED.
47. CONTRACTOR SHALL PERFORM ALL TESTING AND DISINFECTING OF THE WATER LINES PER THE CITY OF LAKE HAVASU SPECIFICATION 02550, PROJECT SPECIFICATION 02666, AND THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) REGULATIONS IN BULLETIN NO. 8.
48. ALL WATER MAINS SHALL BE BURIED WITH 14 GAUGE DIRECT BURY TRACE WIRE.
49. EXACT SLOPES FOR EXISTING PIPES ARE UNKNOWN. CONTRACTOR SHALL ADJUST PIPE ACCORDINGLY TO MATCH EXACT FIELD CONDITIONS. IF THE USE OF FLEX COUPLINGS IS NECESSARY, THIS SHALL BE INCIDENTAL TO THE WATERLINE INSTALLATION BID ITEM.
50. ALL DUCTILE IRON FITTINGS, VALVES, AND PIPE ARE TO BE WRAPPED WITH POLY-ETHYLENE ENCASEMENT.
51. ALL PIPE, FITTINGS, FIRE HYDRANTS & OTHER APPURTENANCES IN DIRECT CONTACT WITH POTABLE WATER SHALL BE NATIONAL SANITATION FOUNDATION (NSF) 61 CERTIFIED. PLASTIC PIPE SHALL BEAR THE NSF SEAL FOR POTABLE WATER USE (NSF-PW).
52. ALL PROJECT LOCATIONS LIE WITHIN FEMA ZONE X.
53. THE CONTRACTOR SHALL TAKE ALL REASONABLE EFFORT AND ACTION TO SATISFY HIMSELF ON THE HORIZONTAL AND VERTICAL LOCATION OF THE EXISTING SEWER LATERALS PRIOR TO TRENCHING MAINLINE.
54. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND SATISFY HIMSELF OF THE EXISTING CONDITIONS AS SHOWN IN THE PLANS PRIOR TO FIRE HYDRANT ASSEMBLY SUBMITTALS. THE CONTRACTOR SHALL INCLUDE SUPPORTING DOCUMENTATION IN A SCHEDULE TYPE FORMAT CONFIRMING THE APPROPRIATE BARREL LENGTH TO MATCH THE FIELD CONDITION. APPROVAL BY OWNER/ENGINEER SHALL BE OBTAINED PRIOR TO THE ORDERING OF MATERIALS. CONTRACTOR IS RESPONSIBLE FOR APPROPRIATE BARREL LENGTH TO ACCOMMODATE ANY CHANGE IN GRADE OR PIPE ELEVATION THAT OCCURS DURING CONSTRUCTION DUE TO AN EXISTING CONDITION. THE CONTRACTOR SHALL BEAR COST OF ANY NECESSARY FITTING TO ACCOMMODATE FIRE LINE ADJUSTMENTS OR ADJUSTED BARREL LENGTHS TO MEET APPROPRIATE GRADE. OWNER SHALL BEAR NO ADDITIONAL COSTS FOR CHANGES IN BARREL AND/OR LINE LENGTH.
55. ENGINEER ASSUMES THAT EACH DEVELOPED LOT ADJACENT TO THE PUBLIC RIGHT-OF-WAY REFLECTED IN THESE PLANS WILL HAVE AT LEAST ONE (1) SANITARY SEWER LATERAL EXTENDING TO THE EXISTING PUBLIC SANITARY SEWER MAIN. A REVIEW OF PUBLIC RECORDS WAS UNABLE TO ASCERTAIN THE EXISTING LATERAL LOCATIONS TO A DEGREE OF CERTAINTY. CONTRACTOR IS ADVISED TO FOLLOW GENERAL NOTE NUMBER 7 ON SHEET 2 OF 24 PRIOR TO CONSTRUCTION. ANCILLARY TO THE REPLACEMENT OF THE EXISTING WATER MAINS, AND SHALL BE PROMPTLY REPAIRED IN KIND BY THE CONTRACTOR AT NO ADDITIONAL COST OR SCHEDULE ESCALATION TO THE OWNER.
56. ALL ASBESTOS CONCRETE PIPE SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH PROJECT SPECIFICATION SECTION 02050.
57. ALL PIPE THAT IS TO BE ABANDONED IN PLACE SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATION SECTION 02550.

PROJECT CONTROL:

PROJECT SETTINGS:
DATUM: NAD83
PROJECTION: ARIZONA STATE PLANE (WEST)
LINEAR UNIT: US FEET
COORDINATE: GRID
GEOID: GEOID 2003, UNIT 05

PROJECT CONTROL AND BENCHMARK DATA:
CITY BASE STATION:
N=1265542.33 --- E=528326.69 --- ELEV=773.83
US HARN POINT - HAVASU:
NGS ORDER A: STAINLESS STEEL ROD IN HANDHOLE MARKED HAVASU 92
N=1298017.10 --- E=515892.32 --- ELEV=696.75
LAKE HAVASU CITY SURVEY MONUMENT - SARA:
2005 AERIAL CONTROL CAP
N=1254812.07 --- E=550796.23 --- ELEV=1060.40
LAKE HAVASU CITY SURVEY MONUMENT - CP1:
G.P.S. CONTROL MONUMENT 1997 IN HANDHOLE
N=1267052.09 --- E=544522.51 --- ELEV=1209.68

ABBREVIATIONS:

Table with 4 columns: Abbreviation, Description, Abbreviation, Description. Includes terms like A (ABANDONED), AGGR (ASBESTOS CEMENT PIPE), APVD (APPROVED), ARCH (ARCHITECTURAL), etc.

FLOOD INFORMATION:

SAID DESCRIBED PROPERTIES ARE LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION 'ZONE X' AS SHOWN ON FLOOD INSURANCE RATE MAP NO. 04015C6180G, WITH A DATE OF IDENTIFICATION OF NOVEMBER 18, 2009, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.

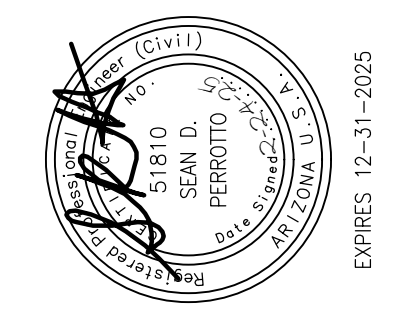


Table with columns: NO., DATE, DSGN, DR, PEROTTO, S. PEROTTO, E. PEROTTO, R. EDWARDS, J. SMITH, REVISION, CHK, APVD, BY, APVD.

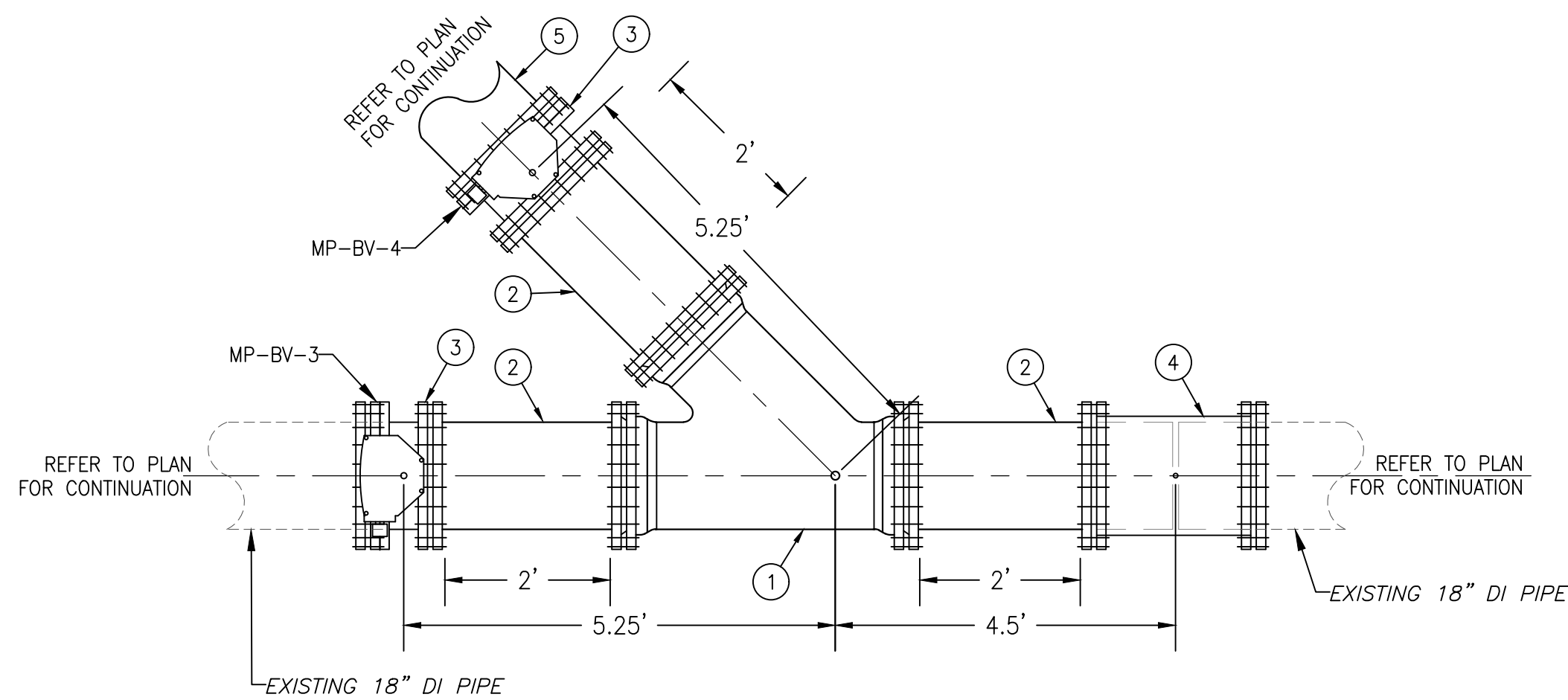
JACOBS logo and TRICO ENGINEERING, LLC logo. Includes contact information for TRICO: 2145 W. AVENUE 12, SUITE 100, LAKE HAVASU CITY, AZ 86403. WWW.TRICOCORPORATION.COM

JACOBS logo and CIVIL GENERAL NOTES section. Includes N.T.S., VERIFY SCALE, BAR IS ONE INCH ON ORIGINAL DRAWING, 0 1", DATE FEBRUARY 2025, PROJ 500134, DWG C-2, SHEET 2 of 13.



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EXISTING 18" DI PIPE

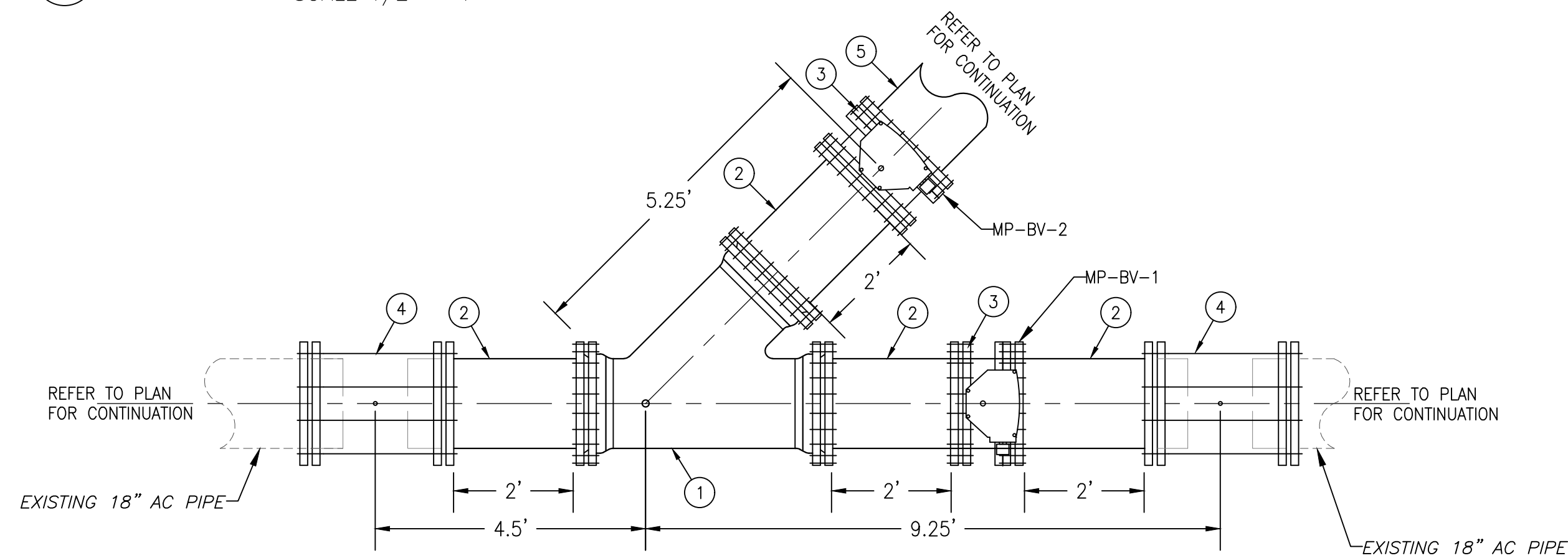
MATERIALS

- ① 18" WYE, MJ X MJ X MJ
- ② 18" DI SPOOL, LENGTH PER PLAN
- ③ 18" BUTTERFLY VALVE, MJ X MJ
- ④ 18" SOLID SLEEVE, MJ X MJ
- ⑤ 18" PVC C900 - REFER TO PLAN

NOTES

- 1. SPOOL LENGTH SHALL BE PER PLAN UNLESS OTHERWISE SHOWN HEREON.
- 2. ALL CONNECTIONS SHALL BE RESTRAINED JOINTS.
- 3. INSTALL VALVE WELL & COVER PER MAG STD 301 & 391-1.
- 4. BUTTERFLY VALVES SHALL INCLUDE AUMA SARV SERIES ACTUATOR AS SPECIFIED WITHIN THESE PLANS AND SPECIFICATIONS.

1 18" CONNECTION TO DI PIPE DETAIL
SCALE 1/2" = 1'



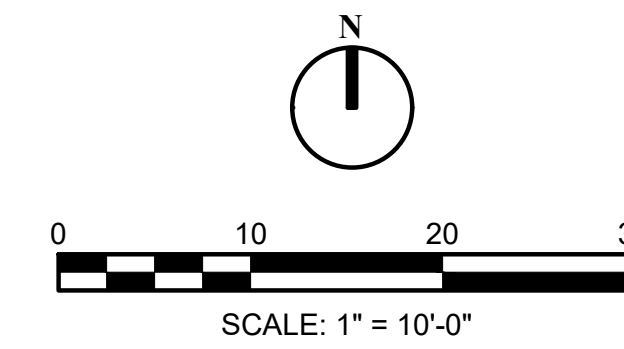
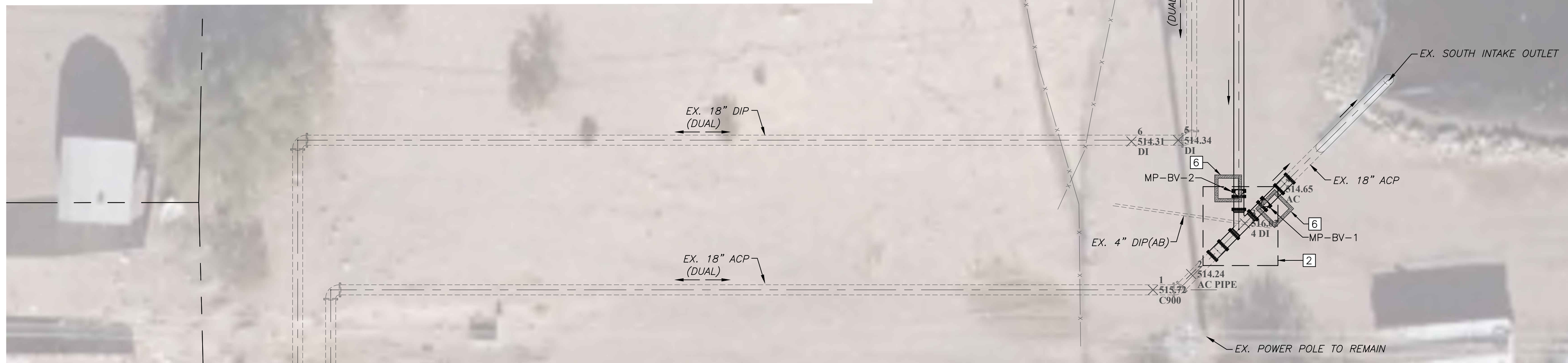
MATERIALS

- ① 18" WYE, MJ X MJ X MJ
- ② 18" DI SPOOL, LENGTH PER PLAN
- ③ 18" BUTTERFLY VALVE, MJ X MJ
- ④ 18" ACP TO DIP TRANSITION COUPLING
- ⑤ 18" PVC C900 - REFER TO PLAN

NOTES

- 1. SPOOL LENGTH SHALL BE PER PLAN UNLESS OTHERWISE SHOWN HEREON.
- 2. ALL CONNECTIONS SHALL BE RESTRAINED JOINTS.
- 3. INSTALL VALVE WELL & COVER PER MAG STD 301 & 391-1.
- 4. BUTTERFLY VALVES SHALL INCLUDE AUMA SARV SERIES ACTUATOR AS SPECIFIED WITHIN THESE PLANS AND SPECIFICATIONS.

2 18" CONNECTION TO AC PIPE DETAIL
SCALE 1/2" = 1'



KEY NOTES:

- ① INSTALL 18-INCH CONNECTION TO EXISTING PER CONNECTION DETAIL 1 ON SHEET LEFT HEREON WITH THRUST BLOCKING PER LHC STD DTL NO. 317 SHOWN ON SHEET C-6.
- ② INSTALL 18-INCH CONNECTION TO EXISTING PER CONNECTION DETAIL 2 ON SHEET LEFT HEREON WITH THRUST BLOCKING PER LHC STD DTL NO. 317 SHOWN ON SHEET C-6.
- ③ INSTALL PVC C900 DR14 PIPE PER DETAIL NO. 1 SHOWN ON SHEET C-6. LENGTH PER PLAN.
- ④ INSTALL 18-INCH D.I. FITTING WITH RESTRAINED JOINT PER LHC SPECIFICATION 02550, WHERE APPLICABLE. ANGLE PER PLAN.
- ⑤ INSTALL WATERLINE UNDER EXISTING EFFLUENT LINE IN ACCORDANCE WITH LHC STD DTL NO. 318 SHOWN ON SHEET C-6.
- ⑥ INSTALL 3' x 3' (INTERIOR OPENINGS) PRECAST UTILITY VAULT TO ALLOW ACCESS VALVE ACTUATORS.



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 CHK
 REVISION
 APVD
 BY
 APVD

JACOBS

CIVIL

INTERCONNECT MECHANICAL PLAN

1" = 10'

VERIFY SCALE

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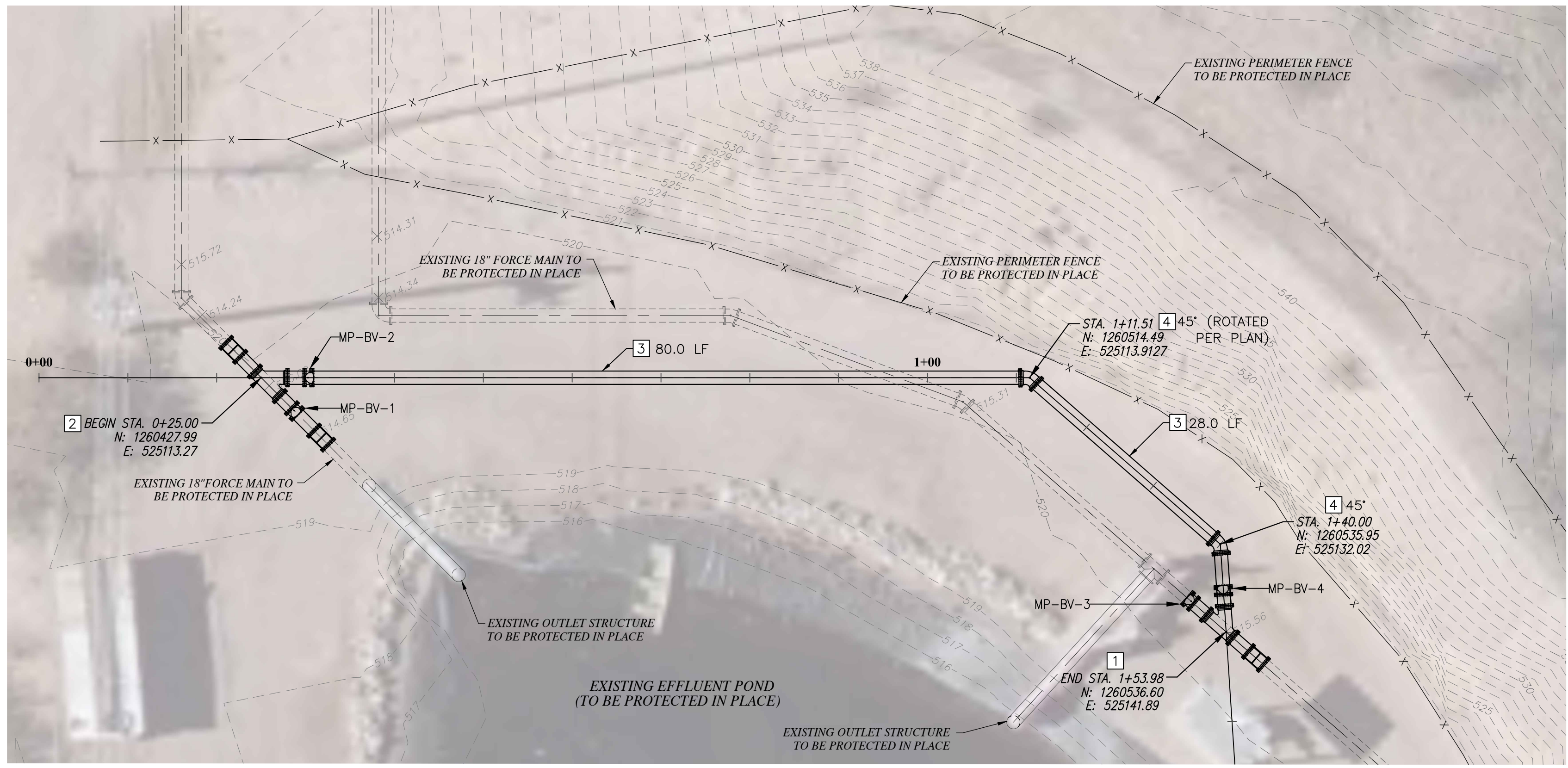
DATE: FEBRUARY 2025

PROJ: 500134

DWG: C-3

SHEET: 3 of 13

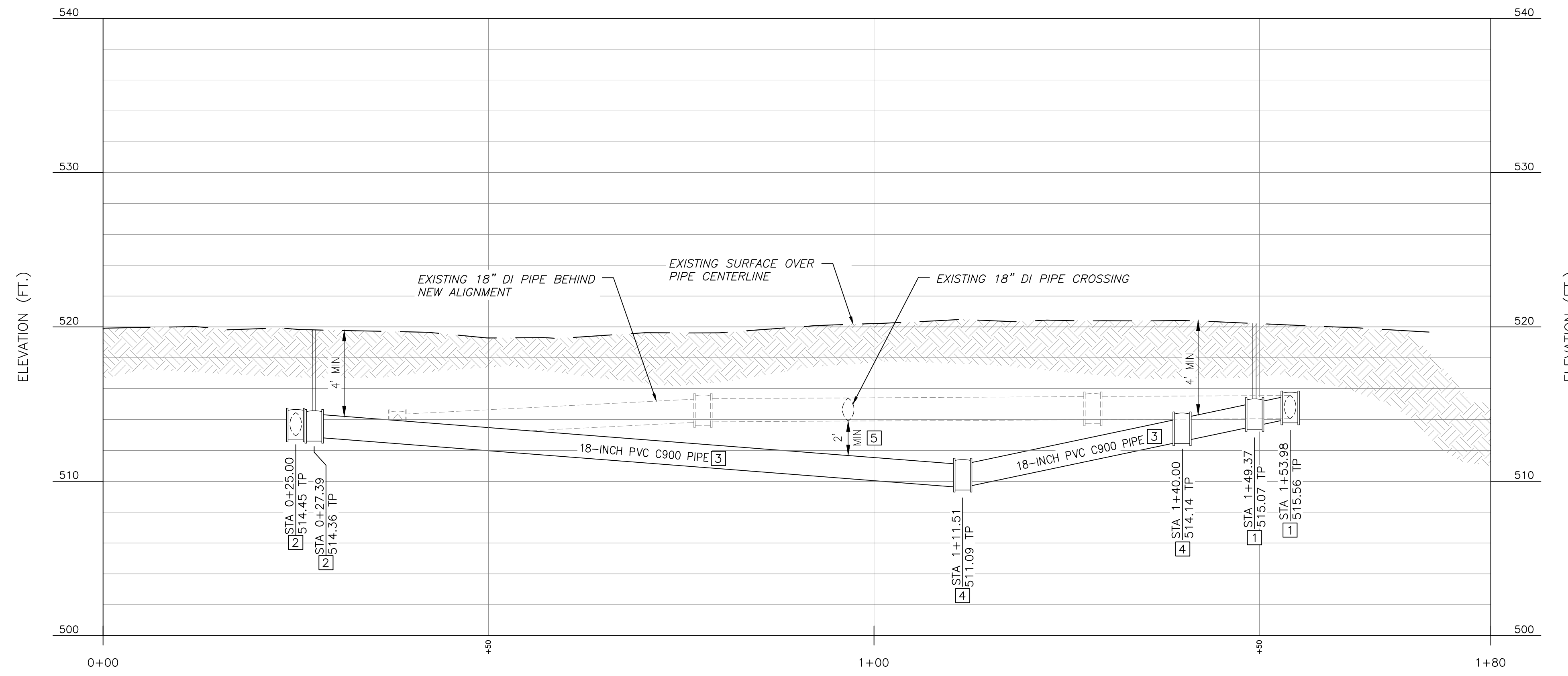
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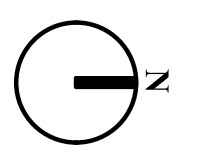
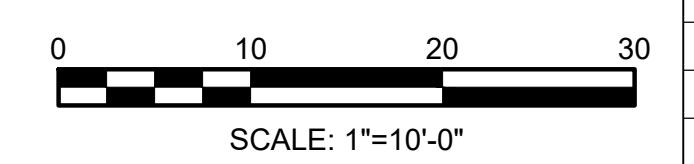
PLAN VIEW

KEY NOTES:

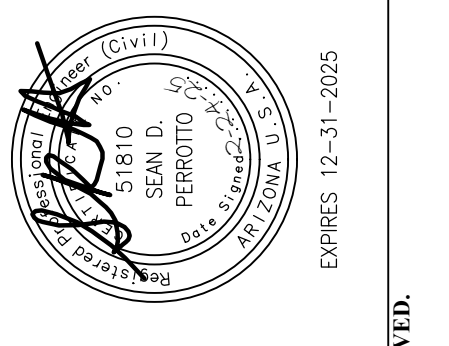
- 1 INSTALL 18-INCH CONNECTION TO EXISTING PER CONNECTION DETAIL 1 ON SHEET C-3 WITH THRUST BLOCKING PER LHC STD DTL NO. 317 SHOWN ON SHEET C-6.
- 2 INSTALL 18-INCH CONNECTION TO EXISTING PER CONNECTION DETAIL 2 ON SHEET C-3 WITH THRUST BLOCKING PER LHC STD DTL NO. 317 SHOWN ON SHEET C-6.
- 3 INSTALL PVC C900 DR14 PIPE PER DETAIL NO. 1 SHOWN ON SHEET C-6. LENGTH PER PLAN.
- 4 INSTALL 18-INCH D.I. FITTING WITH RESTRAINED JOINT PER LHC SPECIFICATION 02550, WHERE APPLICABLE. ANGLE PER PLAN.
- 5 INSTALL WATERLINE UNDER EXISTING EFFLUENT LINE IN ACCORDANCE WITH LHC STD DTL NO. 318 SHOWN ON SHEET C-6.



PROFILE VIEW
SCALE H: 1"=10'; V: 1"=5'

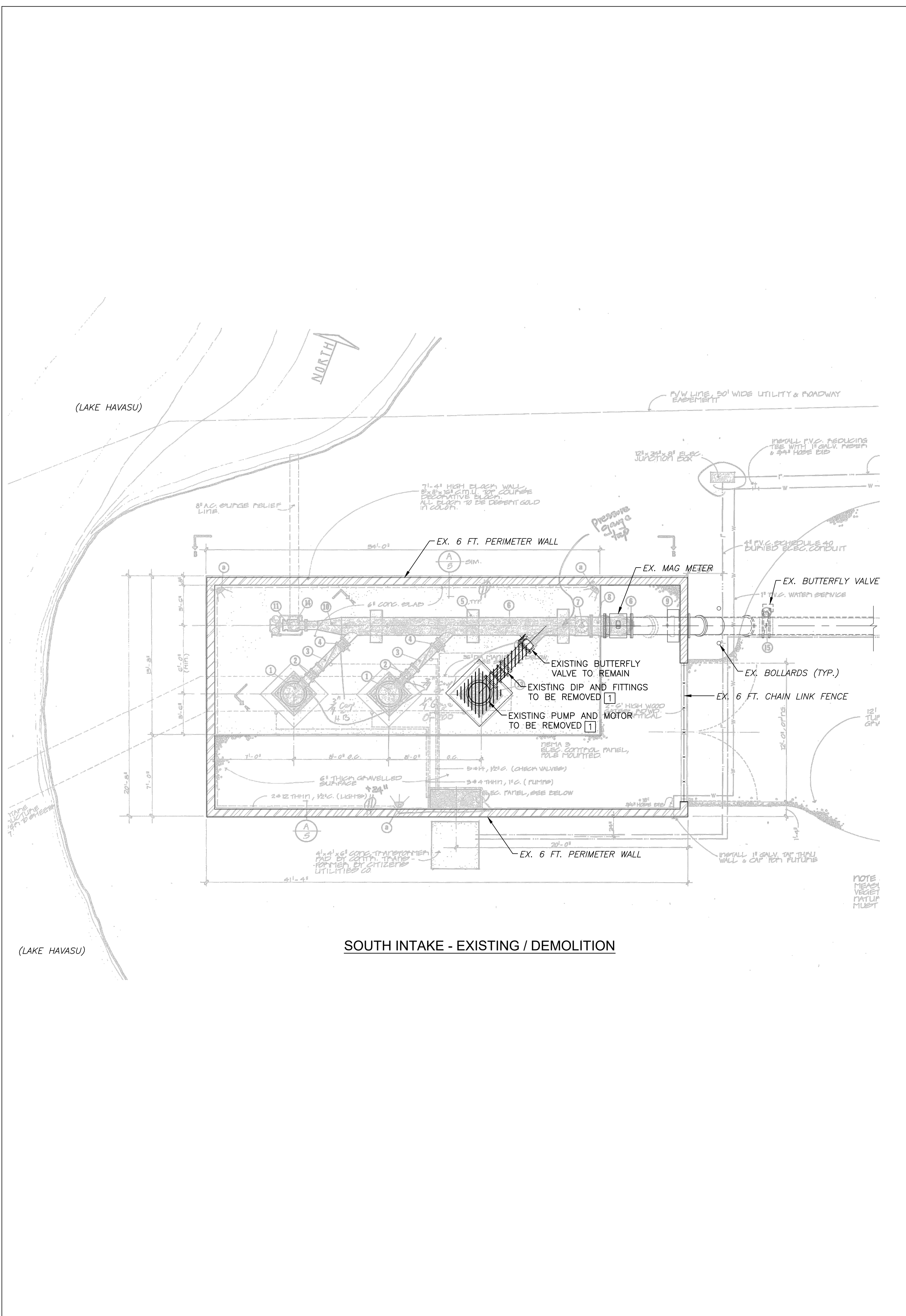


 SOUTH INAKE PROJECT B25-107012-500134 LAKE HAVAS CITY, AZ 86403 2380 McCULLOUGH BLVD. LAKE HAVAS CITY, AZ 86403 (928) 942-2100 WWW.TRICOENGINEERING.COM	 CIVIL INTERCONNECT PLAN & PROFILE		NO. DATE DSGN S. PERROTTO DR S. PERROTTO REVISION J. CULWELL CHK R. EDWARDS BY APVD S. PERROTTO
	1" = 10" VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. DATE FEBRUARY 2025 PROJ 500134 DWG C-4 SHEET 4 of 13		

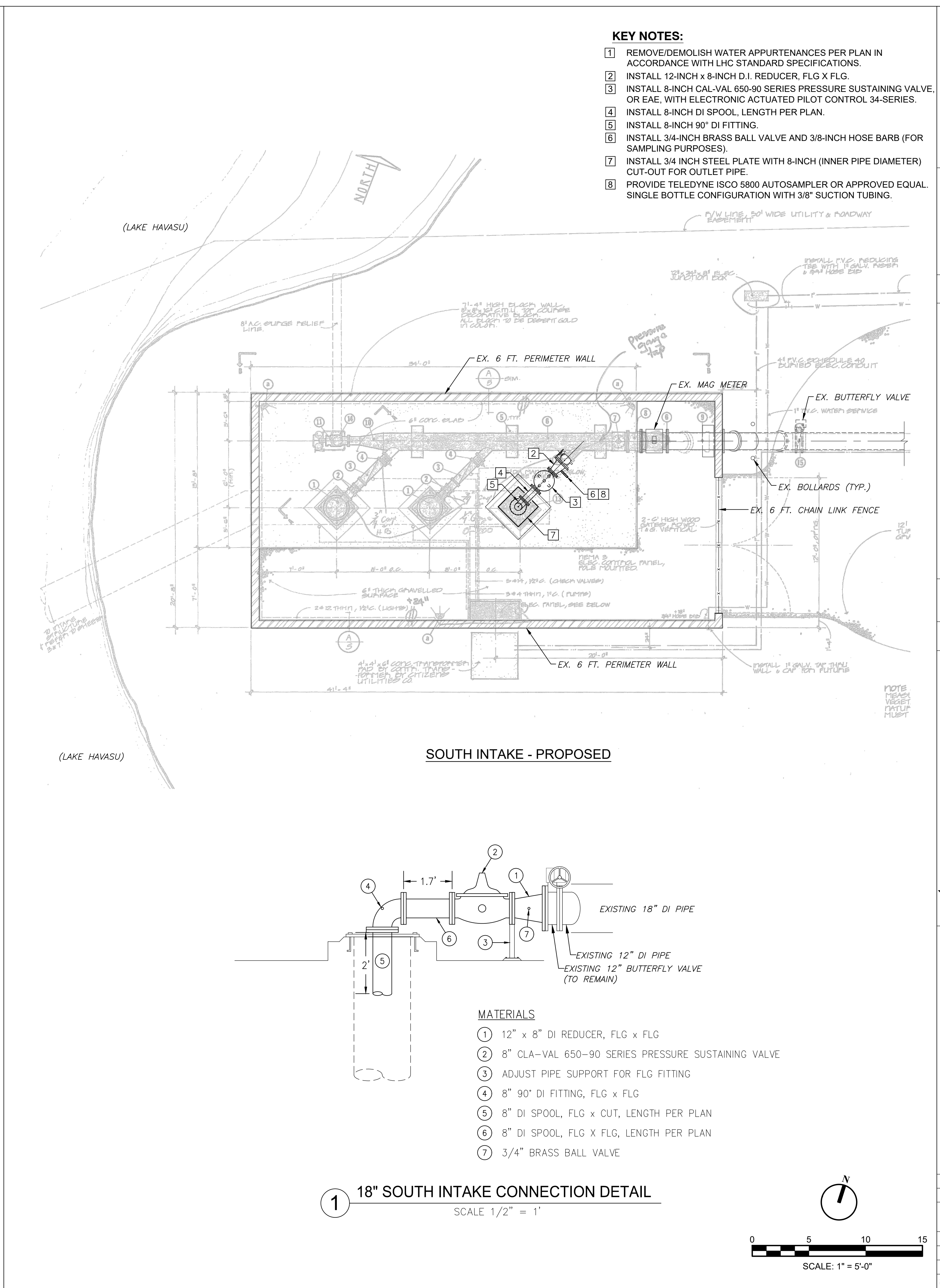


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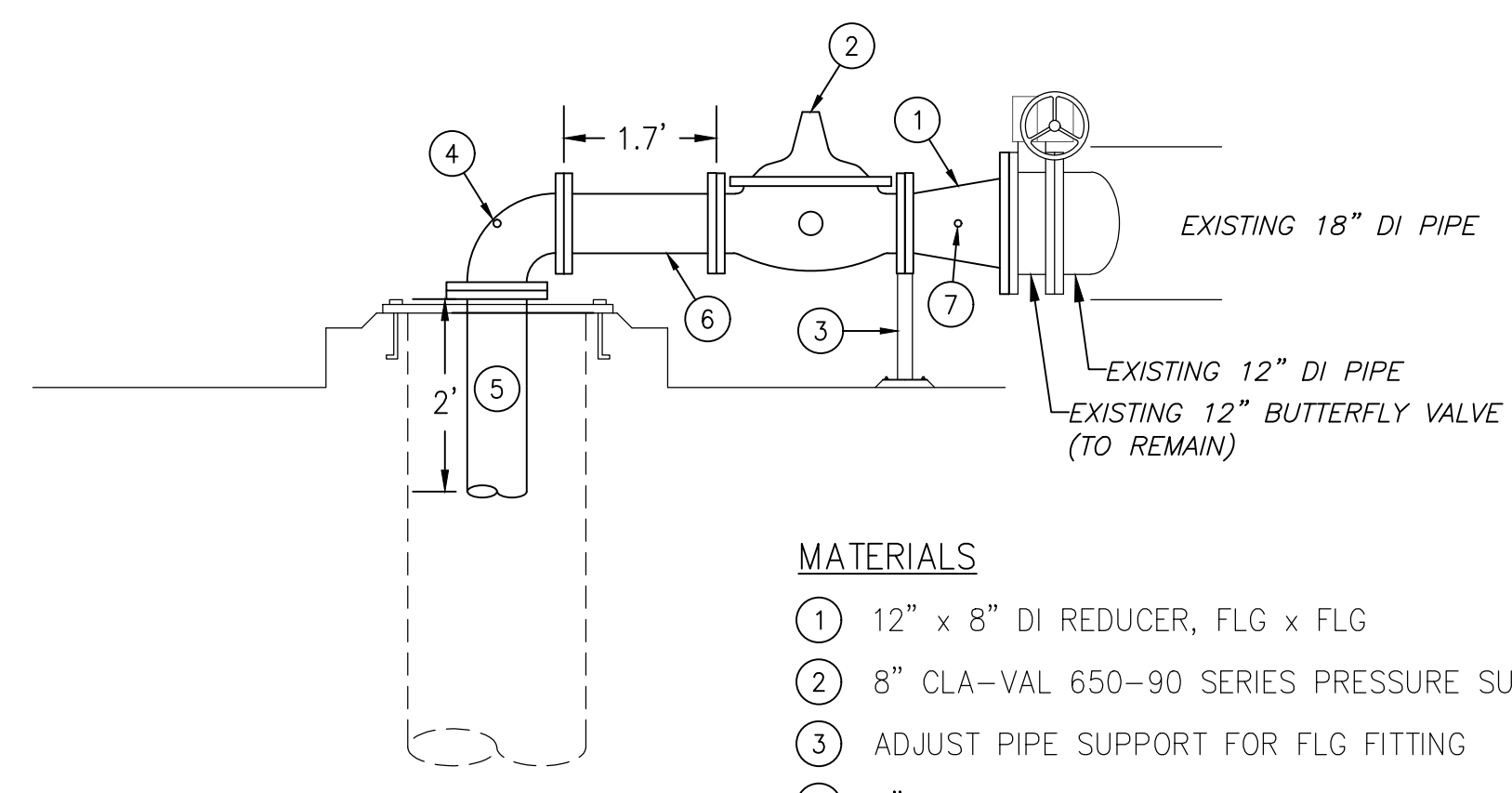
A:\Trico Engineering LLC\Projects\2024\24-081-Jacobs - LAC South Intake Design\CAD\Improvement Plans\24-081-01-LAC South Intake Mechanical LSC\2025\2025 - improvement.dwg - LP: 2/25/2025 11:50 AM



SOUTH INTAKE - EXISTING / DEMOLITION



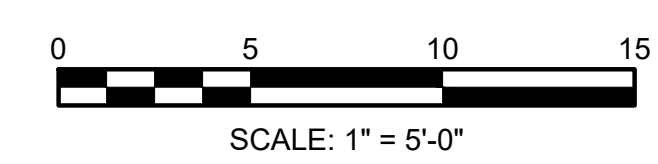
SOUTH INTAKE - PROPOSED



18" SOUTH INTAKE CONNECTION DETAIL

- MATERIALS**
- 1 12" x 8" DI REDUCER, FLG x FLG
 - 2 8" CLA-VAL 650-90 SERIES PRESSURE SUSTAINING VALVE
 - 3 ADJUST PIPE SUPPORT FOR FLG FITTING
 - 4 8" 90° DI FITTING, FLG x FLG
 - 5 8" DI SPOOL, FLG x CUT, LENGTH PER PLAN
 - 6 8" DI SPOOL, FLG x FLG, LENGTH PER PLAN
 - 7 3/4" BRASS BALL VALVE

SCALE 1/2" = 1'



- KEY NOTES:**
- 1 REMOVE/DEMOLISH WATER APPURTENANCES PER PLAN IN ACCORDANCE WITH LHC STANDARD SPECIFICATIONS.
 - 2 INSTALL 12-INCH x 8-INCH D.I. REDUCER, FLG X FLG.
 - 3 INSTALL 8-INCH CAL-VAL 650-90 SERIES PRESSURE SUSTAINING VALVE, OR EAE, WITH ELECTRONIC ACTUATED PILOT CONTROL 34-SERIES.
 - 4 INSTALL 8-INCH DI SPOOL, LENGTH PER PLAN.
 - 5 INSTALL 8-INCH 90° DI FITTING.
 - 6 INSTALL 3/4-INCH BRASS BALL VALVE AND 3/8-INCH HOSE BARB (FOR SAMPLING PURPOSES).
 - 7 INSTALL 3/4 INCH STEEL PLATE WITH 8-INCH (INNER PIPE DIAMETER) CUT-OUT FOR OUTLET PIPE.
 - 8 PROVIDE TELEDYNE ISCO 5800 AUTOSAMPLER OR APPROVED EQUAL SINGLE BOTTLE CONFIGURATION WITH 3/8" SUCTION TUBING.

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SOUTH INTAKE MECHANICAL PLAN MODIFICATION PLAN

1" = 5'

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE FEBRUARY 2025

PROJ 500134

DWG C-5

SHEET 5 of 13

TRICO ENGINEERING, LLC

2100 W. WYOMING AVENUE, SUITE 200
LAKE HAVASU CITY, AZ 86403
WWW.TRICOENGINEERING.COM

PROJECT: SOUTH INTAKE
PROJECT NO: B25-107012-500134
LAKE HAVASU CITY
2300 W. CULWELL BLVD.
LAKE HAVASU CITY, AZ 86403
(928) 944-2100

DESIGN: S. PEROTTO

DR: J. CULWELL

REVISION: R. EDWARDS

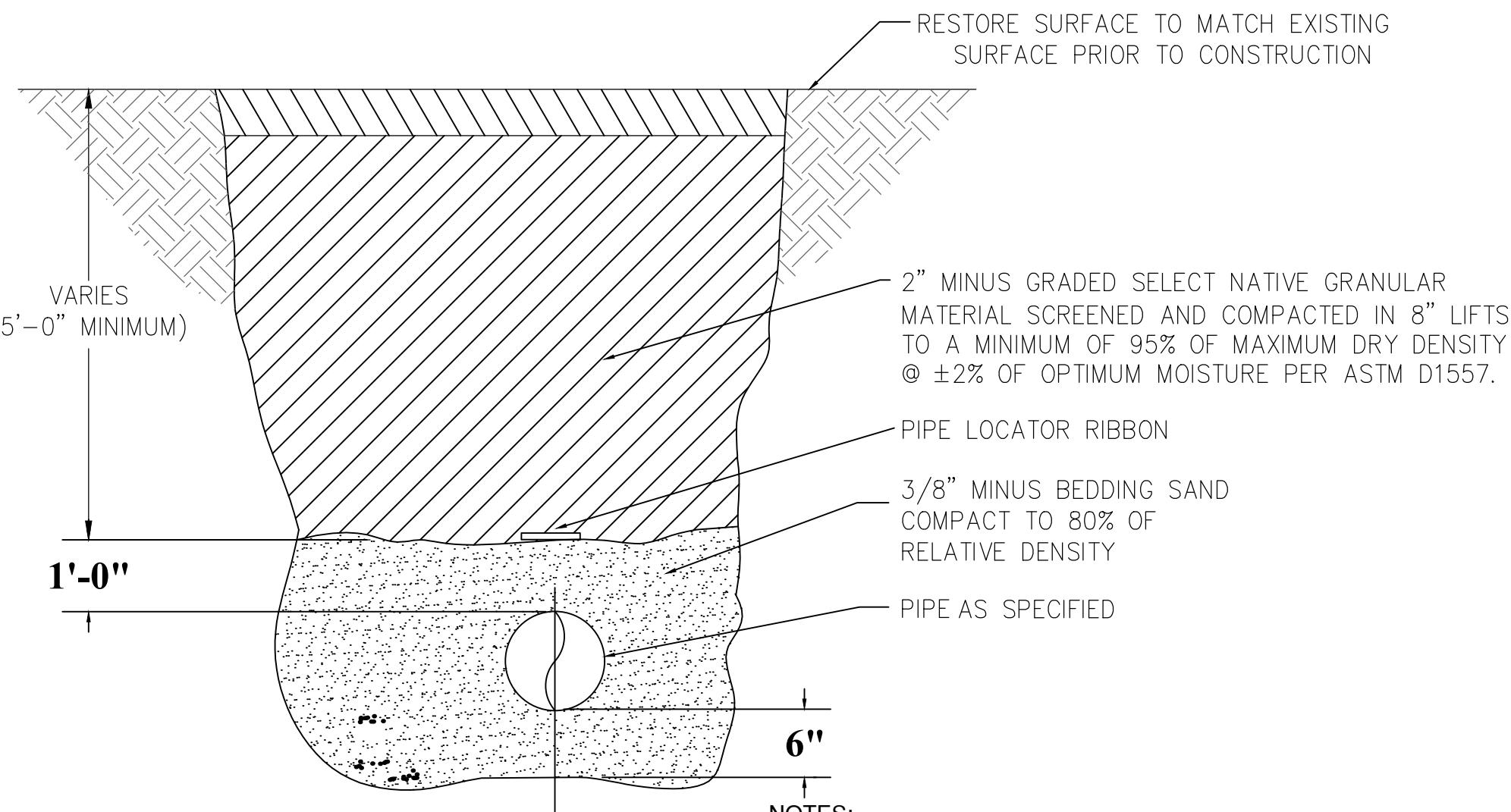
CHK: J. SMITH

BY: APVD

APVD: J. SMITH

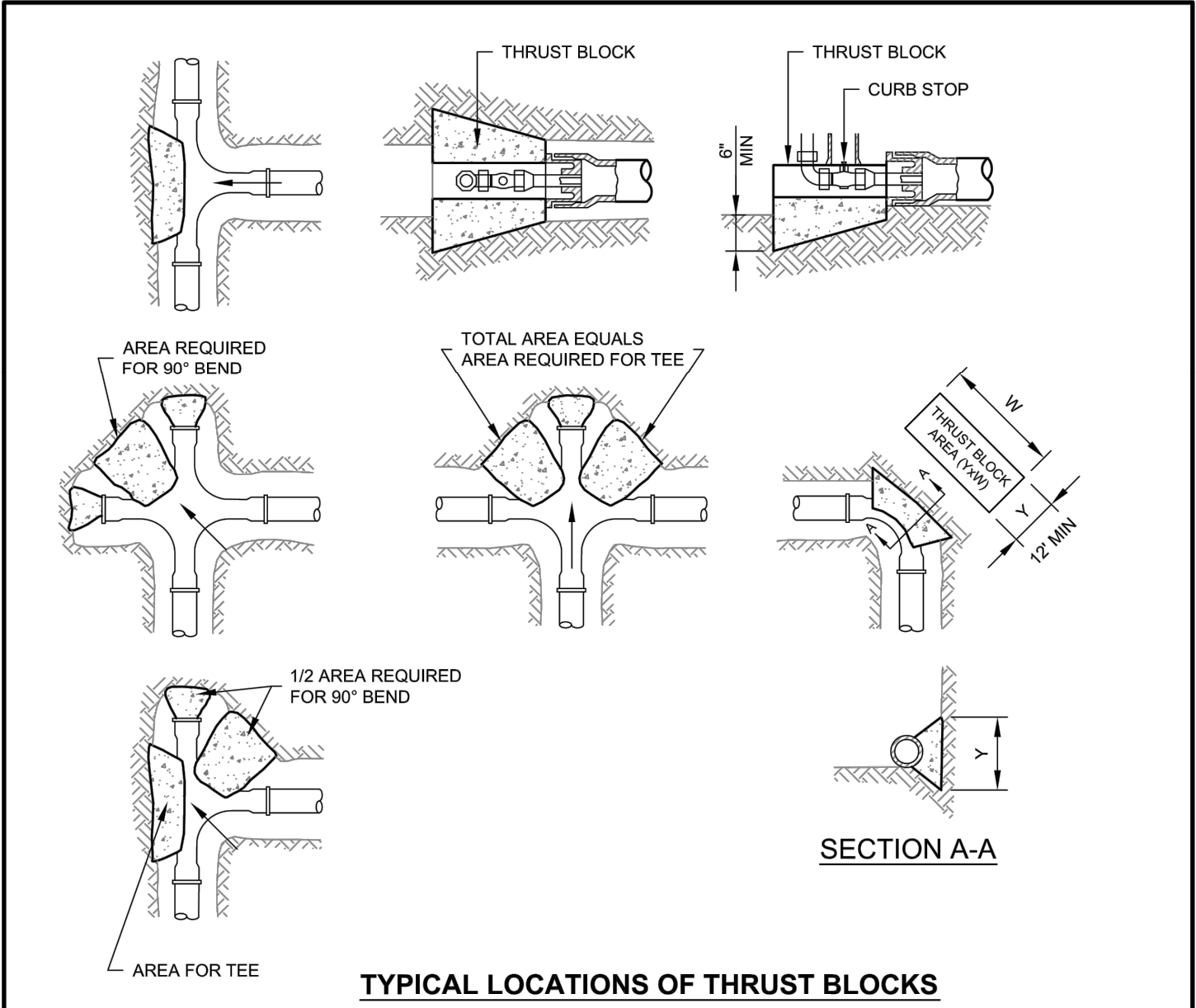
EXPIRES: 12-31-2025

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TYPICAL TRENCH FOR REUSE INSTALLATIONS IN AREAS OUTSIDE ROADWAYS

N.T.S.



TYPICAL LOCATIONS OF THRUST BLOCKS

NOTES:

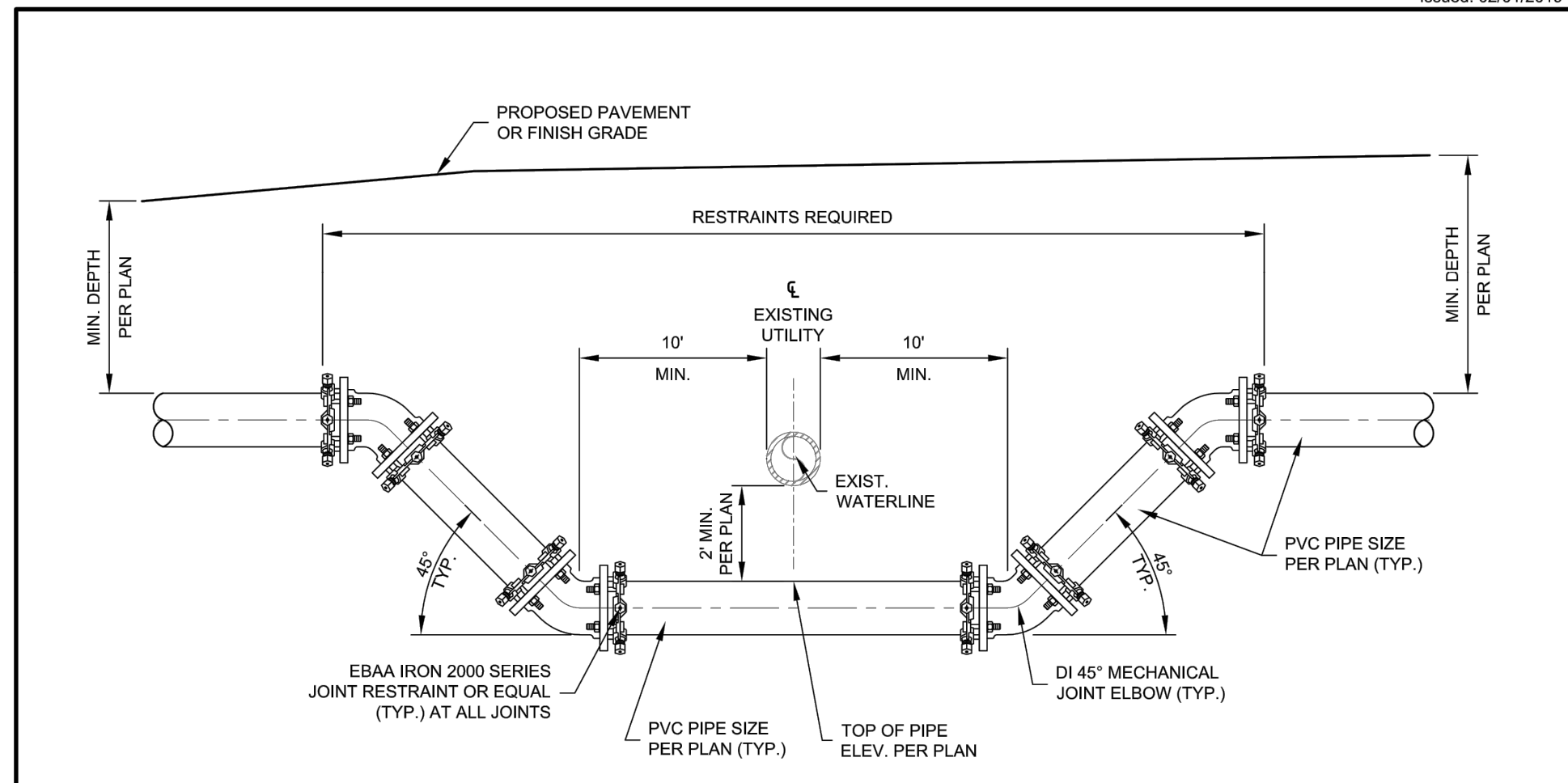
- TABLE IS BASED ON 2,000 P.S.I. TEST PRESSURE AND 3,000 LBS/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
- AREAS FOR PIPES LARGER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
- FORM ALL NON-BEARING VERTICAL SURFACES.
- THRUST BLOCKS ARE TO EXTEND TO UNDISTURBED GROUND. CONCRETE TO BE CLASS 'AA' 4000 PSI. FORM AS REQUIRED TO KEEP CLEAR OF JOINTS.
- ALL DI PIPE AND FITTINGS TO BE DOUBLE POLY WRAPPED BEFORE THRUST BLOCK INSTALLATION.

PIPE SIZE	MINIMUM THRUST BLOCK AREA REQUIRED (YxW) (SQ. FT.)	
	TEE, DEAD END, 90° BEND	WATER PIPE, 45° & 22 1/2° BENDS
4" OR LESS	3	3
6"	4	3
8"	6	3
10"	10	5
12"	14	7
16"	24	12

Scale: N.T.S.

Detail No. 317

LAKE HAVASU CITY Standard Details Water Improvements Thrust Blocks For Water Lines



NOTES:

- CONTRACTOR SHALL FIELD VERIFY WATERLINE LOCATION.
- ALL PIPE FITTINGS SHALL BE PVC, SIZE TO MATCH PLANS.
- ALL PVC PIPE SHALL BE CONSTRUCTED WITH FLANGE RESTRAINTS.
- ELBOWS ONLY REQUIRED IF SHOWN ON PLANS.
- S = SIZE IN INCHES.

Scale: N.T.S.

Detail No. 318

LAKE HAVASU CITY Standard Details Water Improvements Typical Drop Under Existing Waterline

1

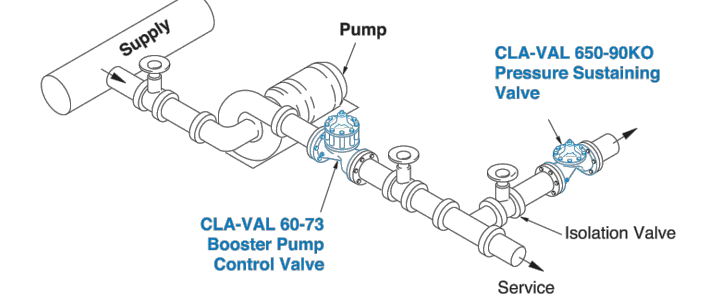
MODEL 650-90 Pressure Sustaining Valve



- Schematic Diagram**
- 1 100-20 Hytrol Main Valve
 - 2 X58C Restriction Assembly
 - 3 CRL5A Pressure Relief Control

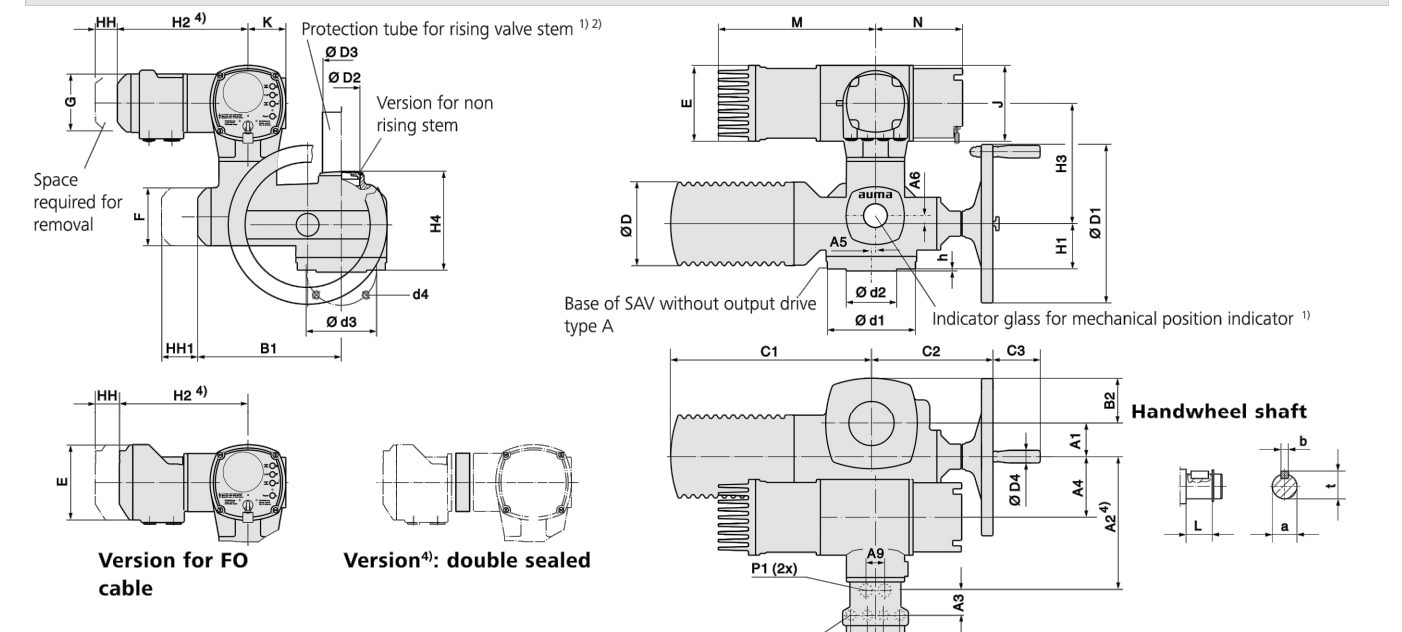
- Optional Features**
- A X46A Flow Clean Strainer
 - B CK2 Isolation Valve
 - C CV Speed Control (Closing)
 - D Check Valves with Isolation Valve
 - F Remote Pilot Sensing
 - H Drain to Atmosphere
 - P XH41 Pressure Gauge
 - S CV Speed Control (Opening)
 - V X101 Valve Position Indicator
 - Y X43 "Y" Strainer

Typical Applications



Pressure Sustaining Service
When installed in a line between an upper zone and a lower area of heavy demand, the valve acts to maintain desired upstream pressure to prevent "robbing" of the upper zone. Water in excess of pressure setting is allowed to flow to an area of heavy demand, control is smooth, and pressure regulation is positive.

SAV 07.2 - SAV 16.2/SARV 07.2 - SARV 16.2 with ACV 01.2 - Fieldbus

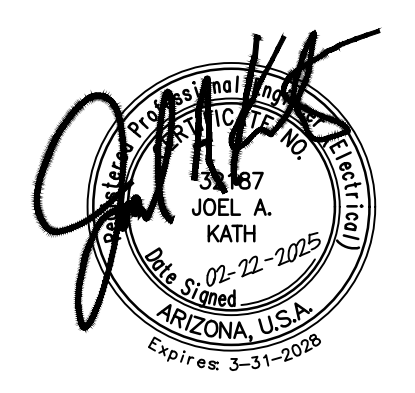


Dimensions	SA 07.2/AC 01.2	SA 07.6/AC 01.2	SA 10.2/AC 01.2	SA 14.2/AC 01.2	SA 14.6/AC 01.2	SA 16.2/AC 01.2
	EN ISO 5210 (DIN3210)	F07	F10 (G0)	F07	F10 (G0)	F10 (G0)
A1	40	60	67	80	87	80
A2 ¹⁾	251 (278*)	251 (278*)	251 (278*)	267 (294*)	267 (294*)	267 (294*)
A3	48	48	48	48	48	48
A4	103	103	103	119	119	123.5
A5	-	-	-	8	8	15
A6	32	32	32	32	32	32
A8	96	96	96	96	96	96
A9	35	35	35	35	35	35
B1	238	238	238	268	268	303
B2	62	62	65	90	90	117
C1	265	265	283	389	389	430
C2	186	186	191	242	242	271
C3	63	63	63	94	94	94
Ø D	101	101	121	153	153	190
Ø D1	160	160	200	315	315	400
Ø D2	G 1 1/4"	G 1 1/4"	G 2"	G 2 1/2"	G 2 1/2"	G 3"
Ø D3	42 x 3.3	42 x 3.3	60 x 3.7	76 x 3.7	76 x 3.7	89 x 4.1
Ø D4	20	20	20	25	25	25
E	150	150	150	150	150	150
F	115	115	115	115	115	115
G	115	115	115	115	115	115
H	78	78	80	90	90	110
H2 ²⁾	257 (284*)	257 (284*)	257 (284*)	257 (284*)	257 (284*)	257 (284*)
H3	225	225	241	241	241	241
H4	160	160	170	196	196	235
H	150	150	150	150	150	150
K	75	75	75	75	75	75
L	20	20	24	38.8	45.8	45.8
M	313	313	313	313	313	313
M1	349	349	349	349	349	349
N	173	173	173	173	173	173
P1 ³⁾	2x M25 x 1.5	2x M25 x 1.5	2x M25 x 1.5	2x M25 x 1.5	2x M25 x 1.5	2x M25 x 1.5
P2 ⁴⁾	4x M20 x 1.5	4x M20 x 1.5	4x M20 x 1.5	4x M20 x 1.5	4x M20 x 1.5	4x M20 x 1.5
HH min.	180	180	180	180	180	180
Ø a	20	20	20	25	25	25
b	6	6	6	8	8	8
Ø d1	90	125	90	125	175	175
Ø d2, F12	55	70 (60)	55	70 (60)	100	100
Ø Ø3	70	102	70	102	140	140
d4	4 x M8	4 x M10	4 x M8	4 x M10	4 x M16	4 x M16
h	3	3	3	4	4	5
l	22.5	22.5	22.5	22.5	33	33

1) Only upon specific order 2) In steps of 100 mm length each 3) Standard, other threads on request 4) Option: Enclosure protection Ipx-DS, cover for electrical connection with additional frame

SAV 07.2 - SAV 16.2/SARV 07.2 - SARV 16.2 with ACV 01.2 - Fieldbus

SA...SAR...	07.2/07.6	10.2	14.2/14.6	16.2	EN ISO 5210 (DIN 3210)				
					F07	F10			
Type	F07	F10	G0	F10	G0	F14	G1/2	F16	G3
F max. kN	40	70	70	160	250				
Ø d1	90	125	125	175	210				
Ø Ø2	55	70	60	100	130				
Ø Ø3	70	102	102	140	165				
d4	M8	M10	M10	M16	M20				
Ø d5	36	44	44	62	80				
Ø d6 max. ¹⁾	Tr 26	Tr 32 ²⁾	Tr 40	Tr 55	Tr 75				
g	40	50	50	65	80				
h	3	15	15	25	35				
h3	12	13	13	15	25				
L	37.5	47.5	47.5	61.5	76.5				
Z	4	4	4	4	4				
Weight kg	1.1	2.8	2.8	6.8	11.7				



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TRICO ENGINEERING, LLC
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 PW-XXXXX
 LAKELAND, FL 33809
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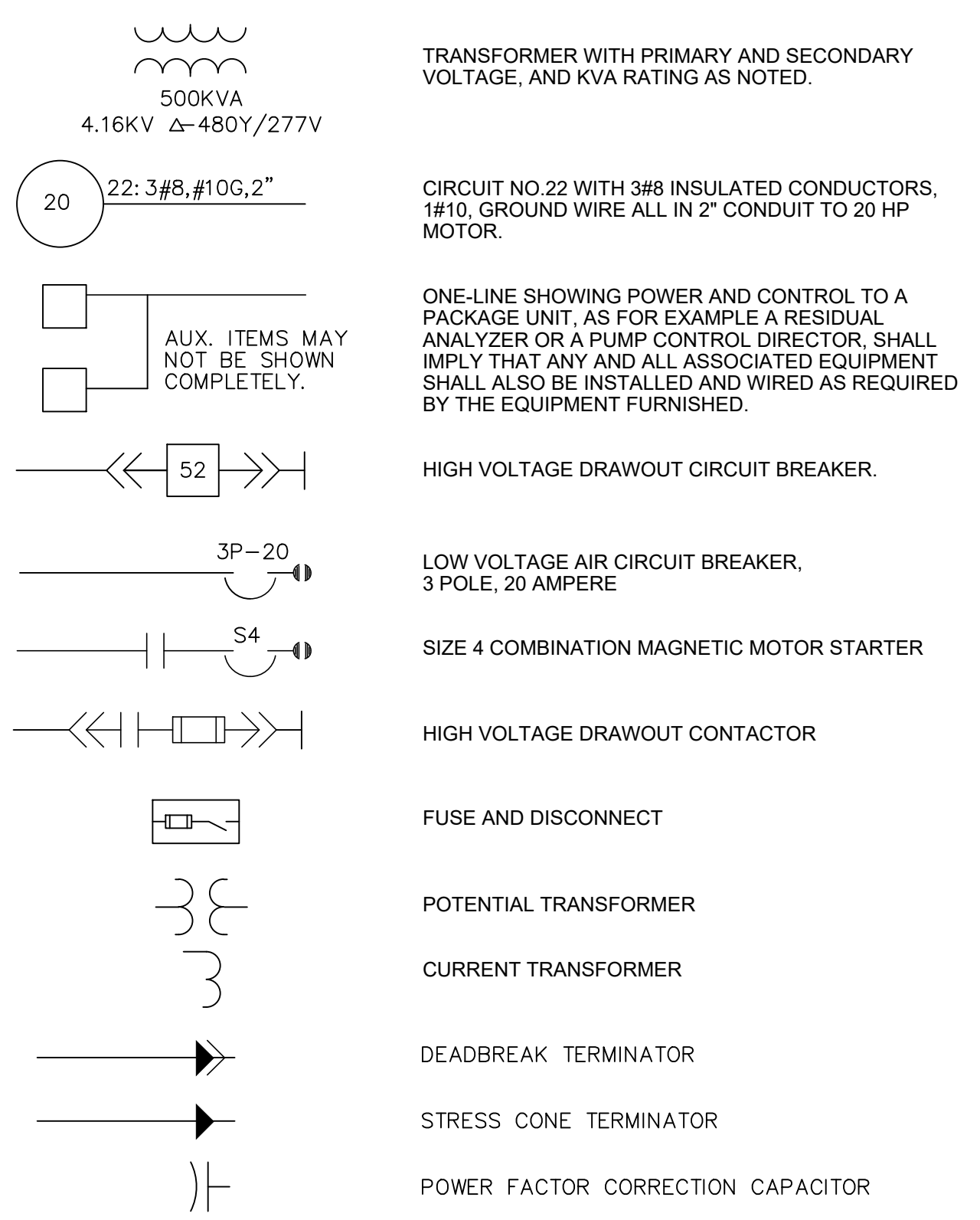
ELECTRICAL AND INSTRUMENTATION
 SYMBOL LEGENDS

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DATE	
PROJ	
DWG	E-001
SHEET	07 of 13

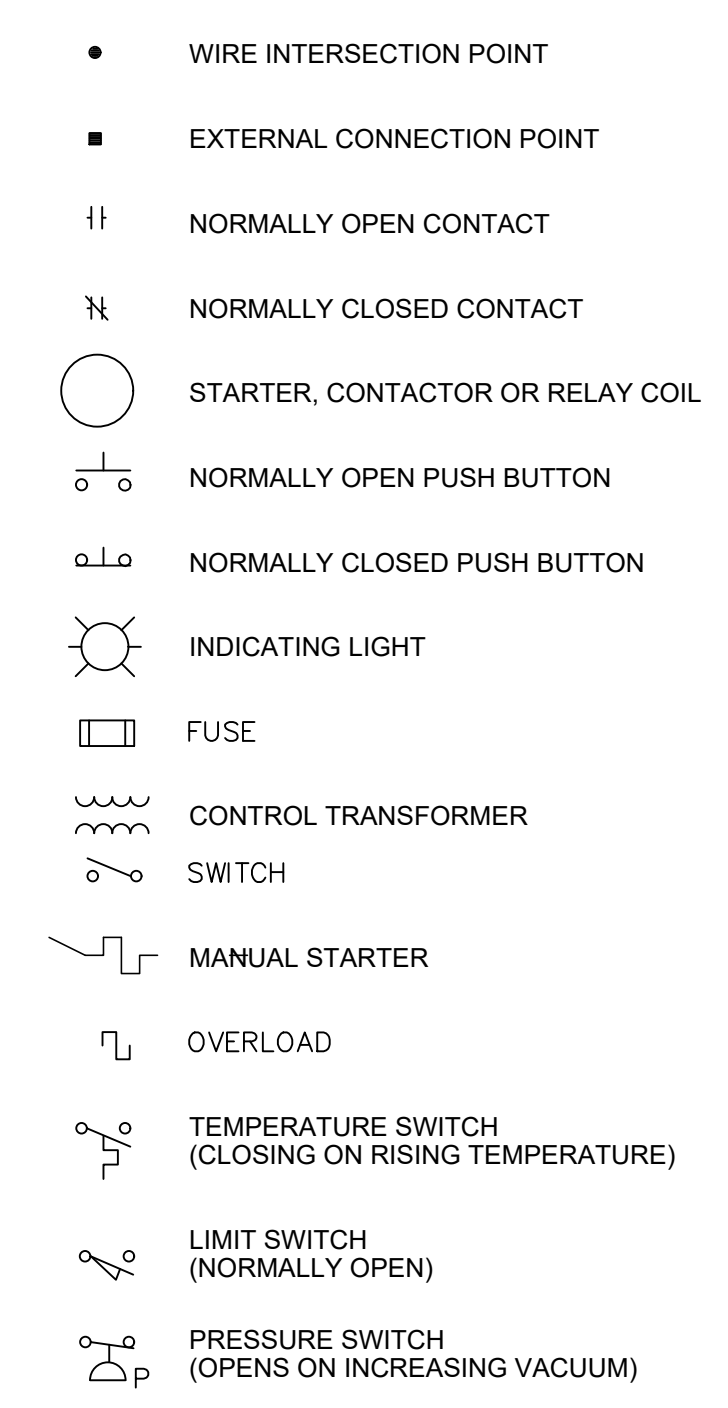
DESCRIPTION OF IDENTIFICATION LETTERS

LETTER	FIRST LETTER(S)		SUCCEEDING LETTER		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USERS CHOICE	USERS CHOICE	USERS CHOICE
C	CONDUCTIVITY (ELECTRICAL)			CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	USERS CHOICE		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH
J	CURRENT		INDICATE		
K	TIME OR TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW MIDDLE
M	MOISTURE OR HUMIDITY	MOMENTARY			
N	USERS CHOICE				
O	USERS CHOICE		ORIFICE		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE OR TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED				
Y	EVENT, STATE OR PRESENCE			RELAY	
Z	POSITION, DIMENSION			DRIVE, ACTUATOR	

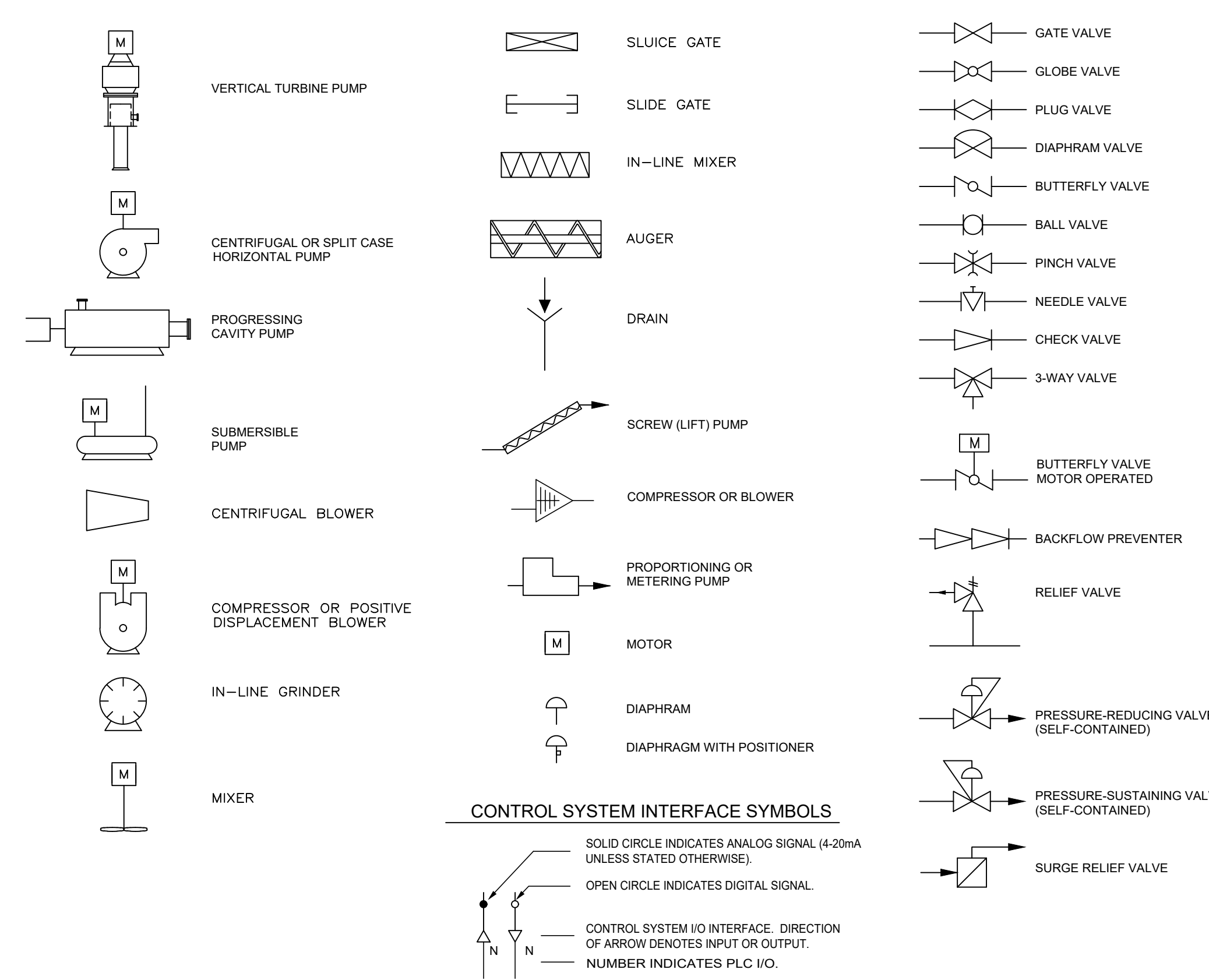
STANDARD ONE LINE DIAGRAM LEGEND



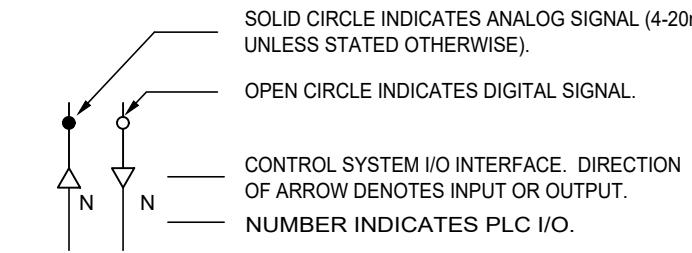
STANDARD SCHEMATIC DRAWINGS



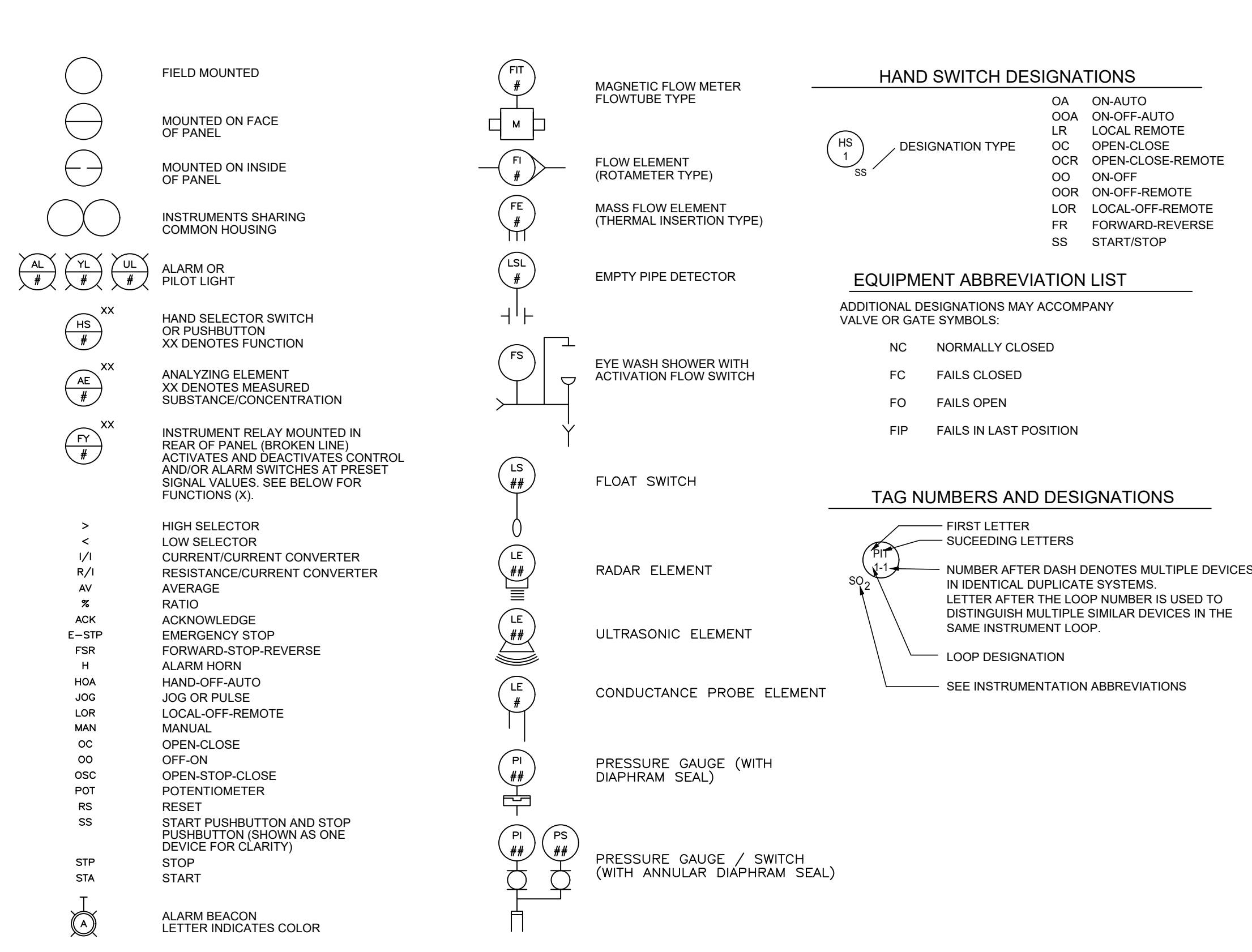
STANDARD PROCESS SYMBOLS



CONTROL SYSTEM INTERFACE SYMBOLS



STANDARD SYMBOLS AND DESIGNATIONS



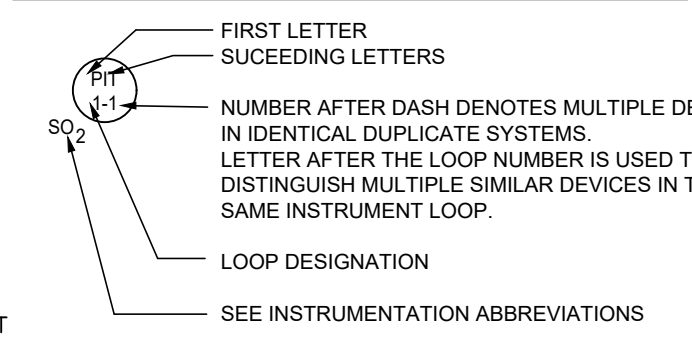
HAND SWITCH DESIGNATIONS

OA	ON-AUTO
OOA	ON-OFF-AUTO
LR	LOCAL REMOTE
OC	OPEN-CLOSE
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OCR	ON-OFF-REMOTE
LOR	LOCAL-OFF-REMOTE
FR	FORWARD-REVERSE
SS	START/STOP

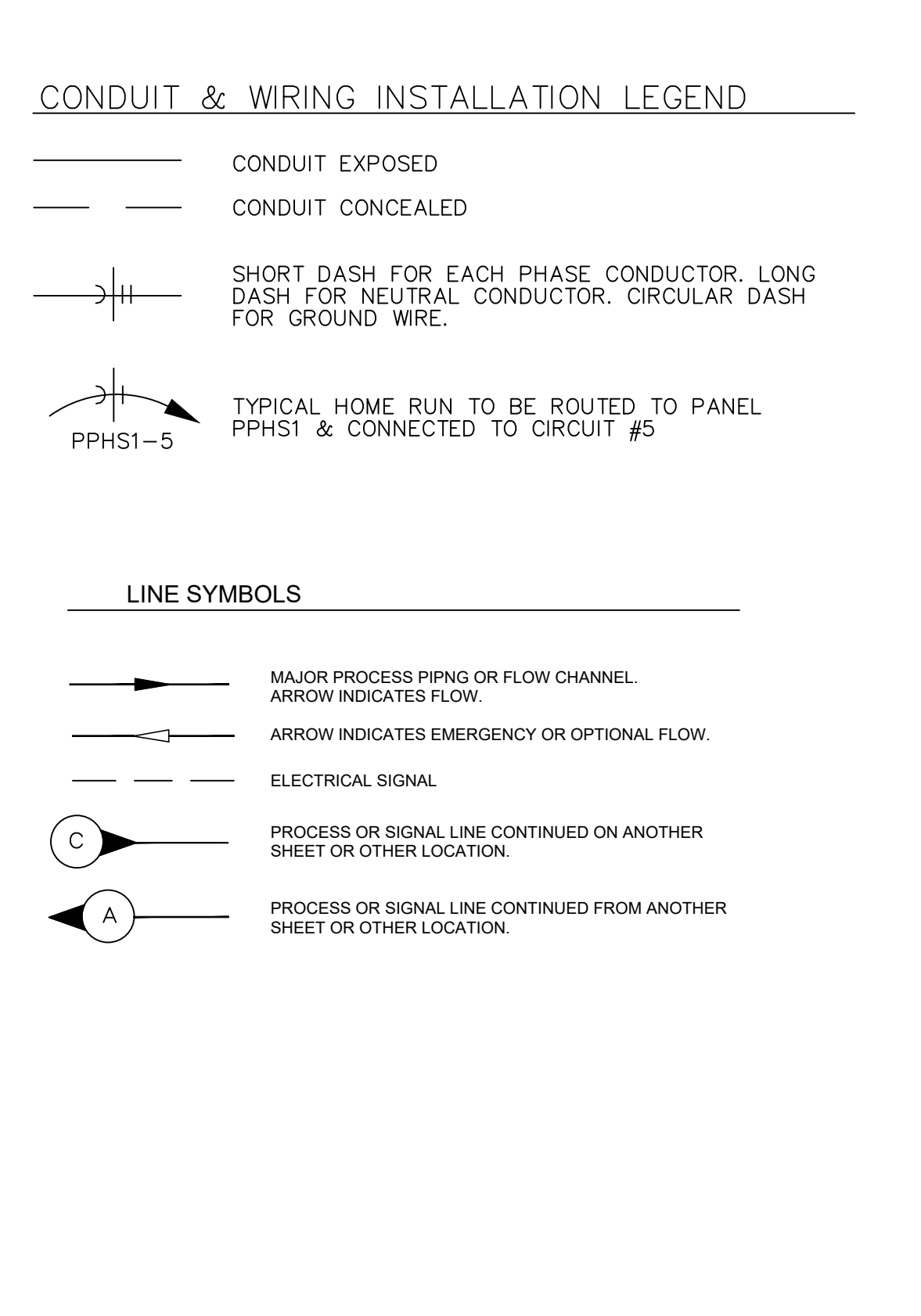
EQUIPMENT ABBREVIATION LIST

NC	NORMALLY CLOSED
FC	FAILS CLOSED
FO	FAILS OPEN
FIP	FAILS IN LAST POSITION

TAG NUMBERS AND DESIGNATIONS



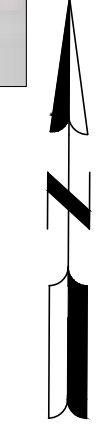
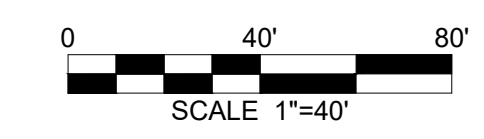
CONDUIT & WIRING INSTALLATION LEGEND



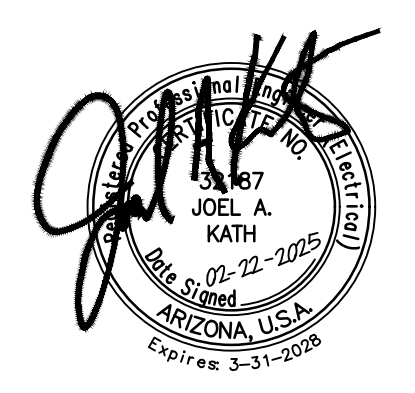


- MULBERRY POND NOTES**
- ① EXISTING 480V MCC-UV. EXISTING POWER SOURCE FOR MULBERRY POND REMOTE I/O. RETAIN POWER SOURCE AND CONNECT TO NEW PANELBOARD MP-HP1.
 - ② UPGRADE AND REPLACE EXISTING REUSE PLC.
 - ③ EXISTING FIBER OPTIC CABLE AND INNERDUCT. REPLACE FIBER WITH NEW.
 - ④ UPGRADE AND REPLACE EXISTING MULBERRY POND REMOTE I/O PANEL.
 - ⑤ PROVIDE NEW PANEL MP-HP1. REPLACE EXISTING DISCONNECT SWITCH AND CONNECT TO NEW PANEL. SEE POWER ONE-LINE DIAGRAM.
 - ⑥
 - ⑦ FIBER OPTIC CABLE AND INNERDUCT. FIBER TO BE 1-6 PAIR, 62.5 SINGLE MODE, ARMORED, GEL FILLED AND SUITABLE FOR DIRECT BURY. INSTALL IN 1 1/4" INNERDUCT, TRENCHED 24" B.G.

1 CO-MINGLING POND ELECTRICAL SITE PLAN
E-101 1" = 40'-0"



C:\Users\Joel\OneDrive\Work\2024\24-022101 JAC South Water Facility\DWG\24-022101 JAC South Water Facility.dwg (2/24/2025 2:52 PM) - LP: 2/24/2025 2:52 PM



NO.	DATE	DR	REVISION	CHK	BY	APVD

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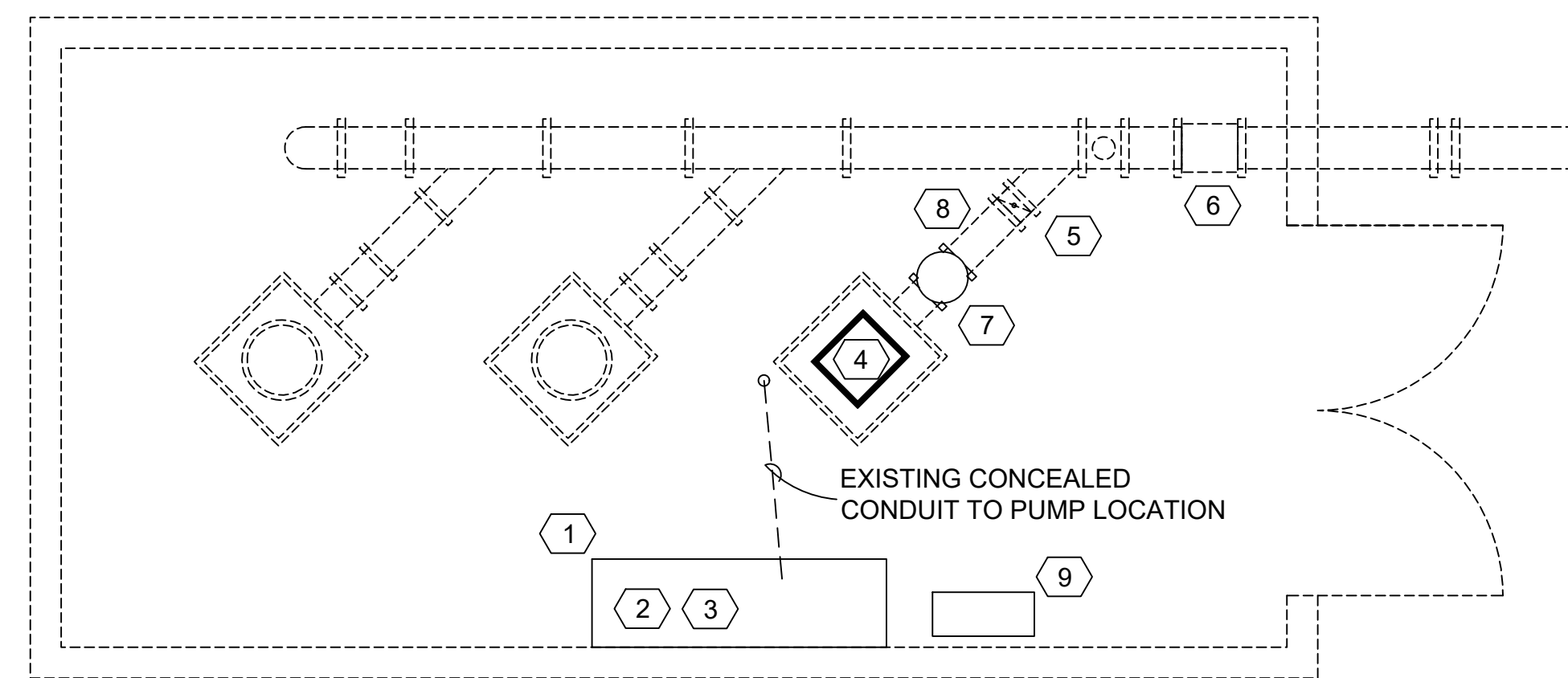
SOUTH WELL INTAKE
PW-XXXXX

Jacobs
ELECTRICAL
ELECTRICAL SITE PLAN
MULBERRY POND

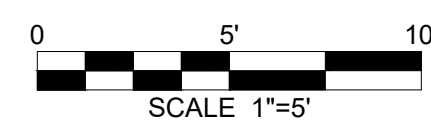
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BAR IS ONE INCH ON ORIGINAL DRAWING.

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DWG	E-101
SHEET	08 of 13

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1 SOUTH INTAKE ELECTRICAL PLAN
E-102 1" = 5'-0"

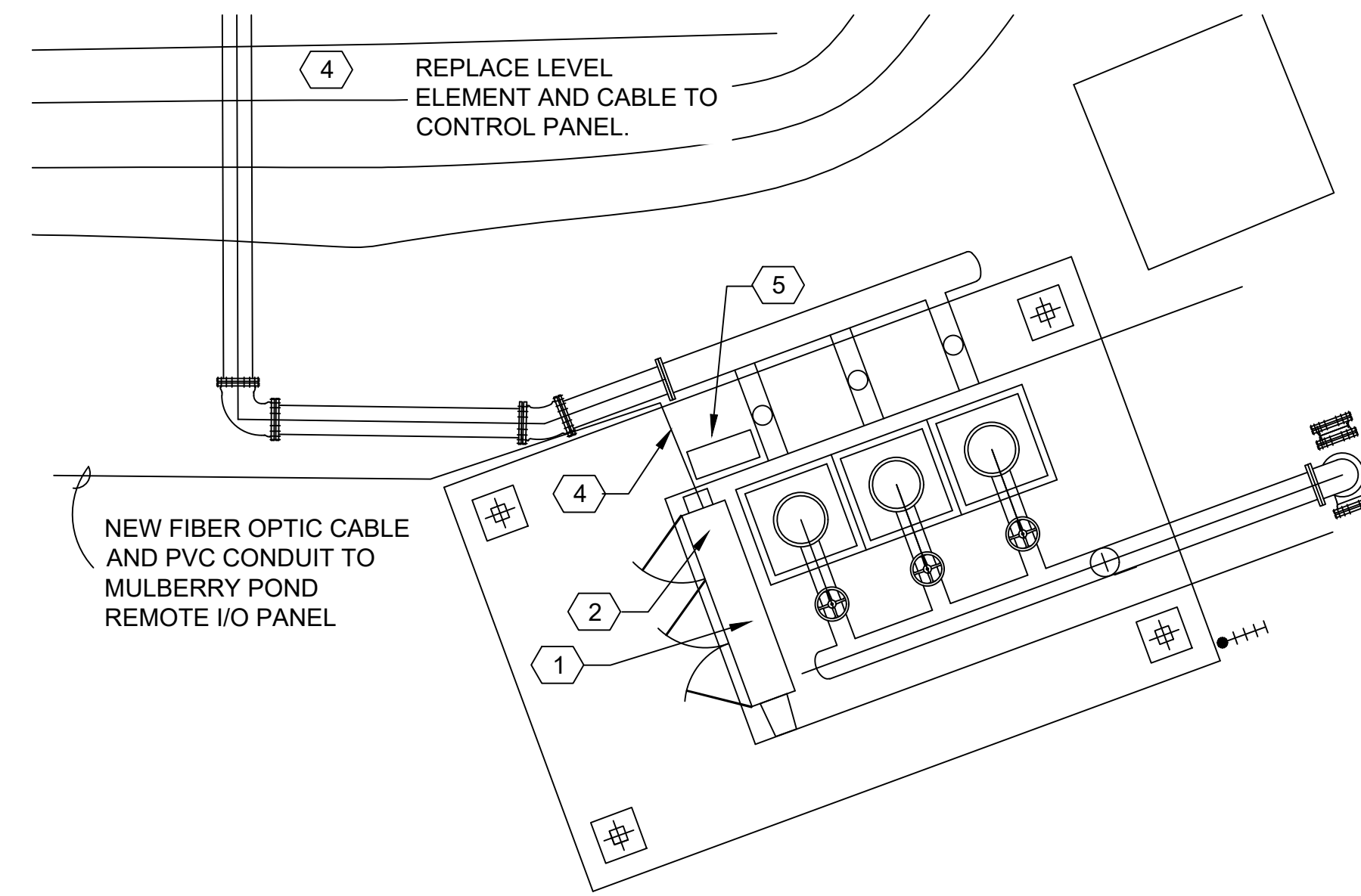


SOUTH INTAKE PLAN NOTES

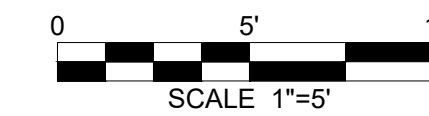
- 1 EXISTING 277/480V MCC AND PUMP PANEL. DISCONNECT AND ABANDON THE STARTER FOR REMOVED PUMP P3.
- 2 EXISTING 120/240V CONVENIENCE PANEL LOCATED WITHIN MCC ENCLOSURE. PROVIDE POWER CONNECTION FOR AUTO-SAMPLER.
- 3 EXISTING SCADA RTU LOCATED WITHIN MCC ENCLOSURE. MODIFY TO ACCEPT NEW INSTRUMENTATION AND CONTROL POINTS.
- 4 EXISTING PUMP TO BE REMOVED. DISCONNECT AND REMOVE ASSOCIATED ELECTRICAL. RETAIN EXISTING CONDUIT FOR NEW SOLENOIDS AND PRESSURE TRANSDUCER CONNECTION.
- 5 EXISTING MANUAL BUTTERFLY VALVE TO REMAIN.
- 6 EXISTING FLOW METER TO REMAIN.
- 7 PROVIDE CONNECTION TO SOLENOIDS ON NEW PRESSURE SUSTAINING VALVE. UTILIZE EXISTING CONCEALED CONDUIT FROM MCC TO PUMP LOCATION FOR NEW SOLENOID CONTROL.
- 8 PROVIDE CONNECTION TO NEW PRESSURE TRANSDUCER. UTILIZE EXISTING CONCEALED CONDUIT FROM MCC TO PUMP LOCATION FOR NEW SOLENOID CONTROL.
- 9 PROVIDE WP GFCI RECEPTACLE CONNECTION TO NEW AUTO SAMPLER EQUIPMENT. PROVIDE 1/2" RSC AND BOX. CONNECT TO CONVENIENCE PANEL IN MCC WITH NEW 20A-1P BREAKER.

GENERAL NOTES:

- ALL EXPOSED CONDUIT TO BE RIGID STEEL.
- PROVIDE LIQUID TIGHT FLEX CONDUIT FOR CONNECTION TO ALL DEVICES. MAX LENGTH 36".

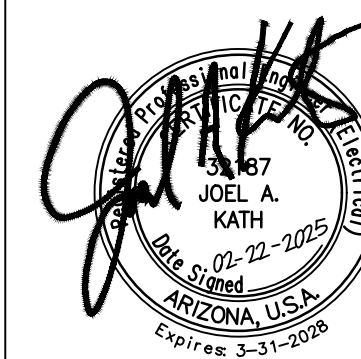


2 EXISTING GOLF COURSE PUMP STATION
E-102 1" = 5'-0"



SOUTH INTAKE PLAN NOTES

- 1 EXISTING PUMP STATION PUMP PANEL CONTROL PANEL TO REMAIN. 600A 277/48-V 3 PHASE. RETAIN EXISTING STARTERS AND CONTROL.
- 2 EXISTING SCADA/RTU LOCATED WITHIN PUMP STATION PUMP CONTROL PANEL. PROVIDE NEW FIBER OPTIC COMMUNICATION EQUIPMENT, MODEMS, AND NEW CABLE TO MULBERRY POND REMOTE I/O PANEL.
- 3 NEW FIBER OPTIC CABLE. NEW RSC ABOVE GRADE. TRANSITION FROM BELOW GROUND PVC CONDUIT TO RIGID STEEL CONDUIT WITH RSC ELL. MASTIC WRAP BELOW GRADE RSC TO 1" ABOVE CONCRETE SLAB.
- 4 REPLACE EXISTING POND LEVEL TRANSDUCER.
- 5 EXISTING CONTROL CABINET WITH LEVEL METER. RETAIN CABINET. CONNECT TO NEW POND LEVEL TRANSDUCER.



NO.	DATE	DR	REVISION	BY

TRICO ENGINEERING, LLC
211 W ANSON AVENUE, STE. 204
WWW.TRICONGROUP.COM

JACOBSON ENGINEERS INC
1400 N. 98th ST
LAKELAND, FL 33809

SOUTH WELL INTAKE
PW-XXXXX
LAKE HAVASU CITY, AZ 86403
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(928) 855-5114

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ELECTRICAL

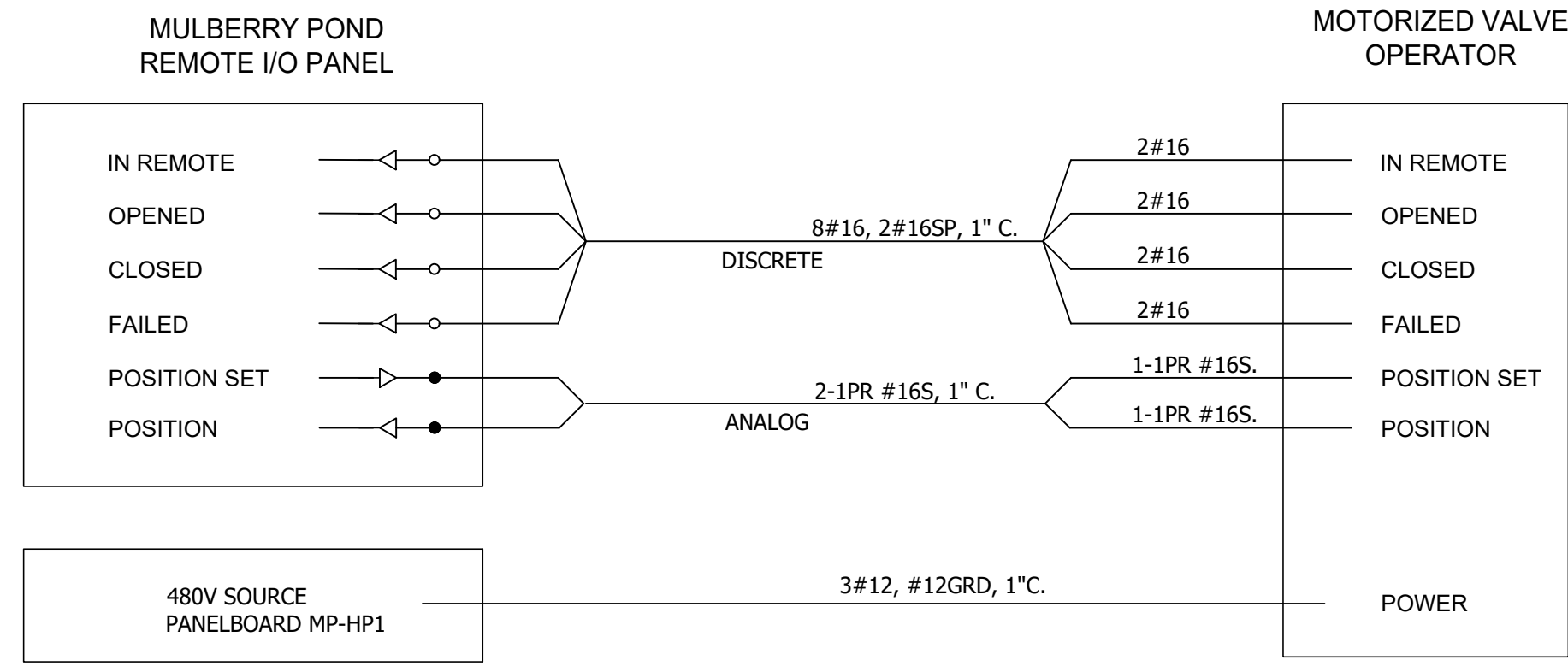
ELECTRICAL SITE PLAN
SOUTH INTAKE PUMP STATION
GOLF COURSE PUMP STATION

VERIFY SCALE
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SHEET	09 of 13

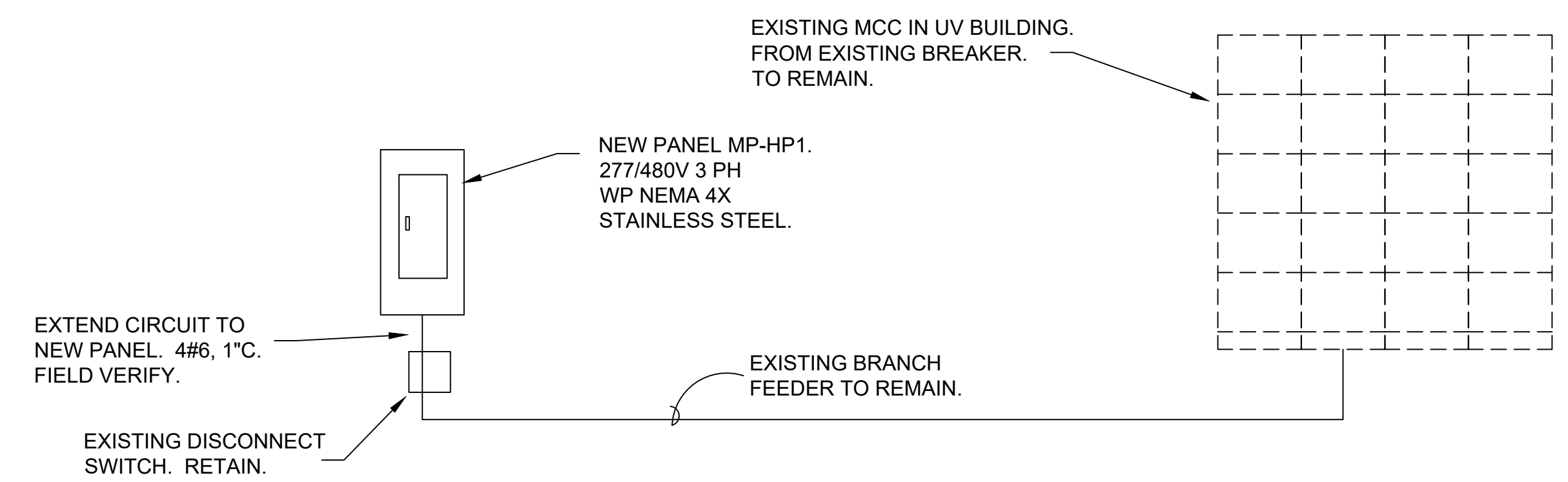
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2/2/2024 10:40 AM KATH (JOEL.A.KATH@JACOBS.COM) (S:\Projects\2024\2024-02-18-25\2024-02-18-25.dwg) (S:\Projects\2024\2024-02-18-25.dwg) - LP: 2/2/2024 2:52 PM

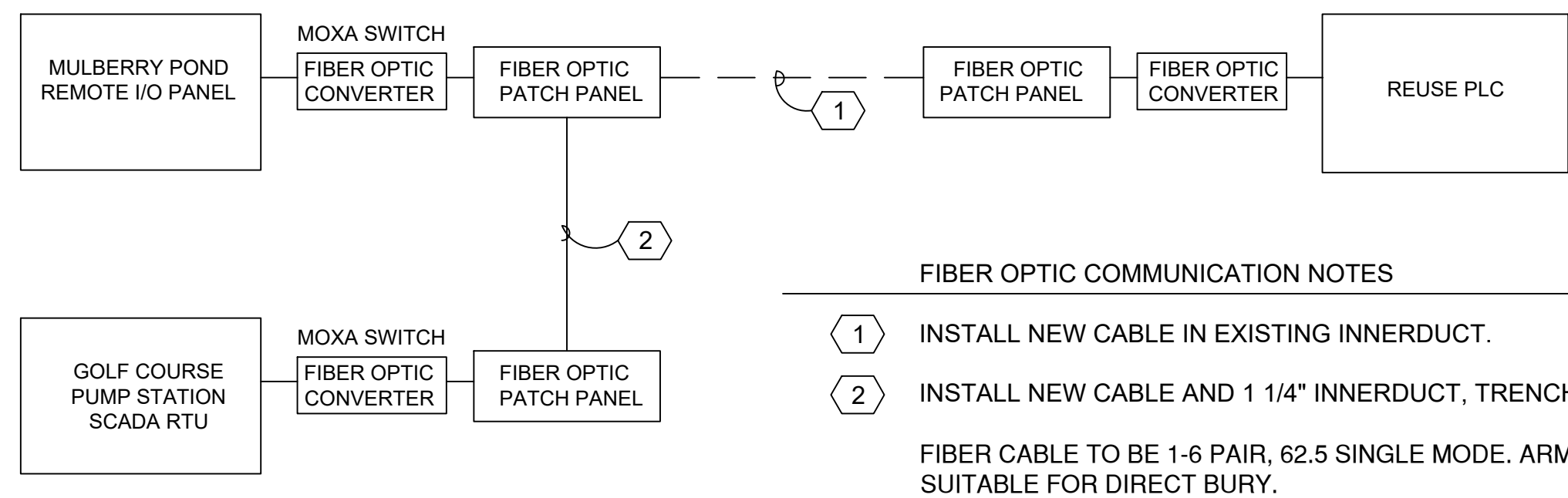


1 MOTORIZED VALVE OPERATOR ONE-LINE DIAGRAM
E-201 NO SCALE TYPICAL OF: MP-BV1, MP-BV2, MP-BV3, MP-BV4

NOTE: EACH VALVE OPERATOR REQUIRES QTY 3 1" CONDUITS. TRENCHED 24" BELOW GRADE. SEE SITE PLANS FOR LOCATIONS. CONDUCTORS FOR 480V POWER TO BE INSTALLED SEPARATELY FROM CONTROL AND ANALOG CABLES.



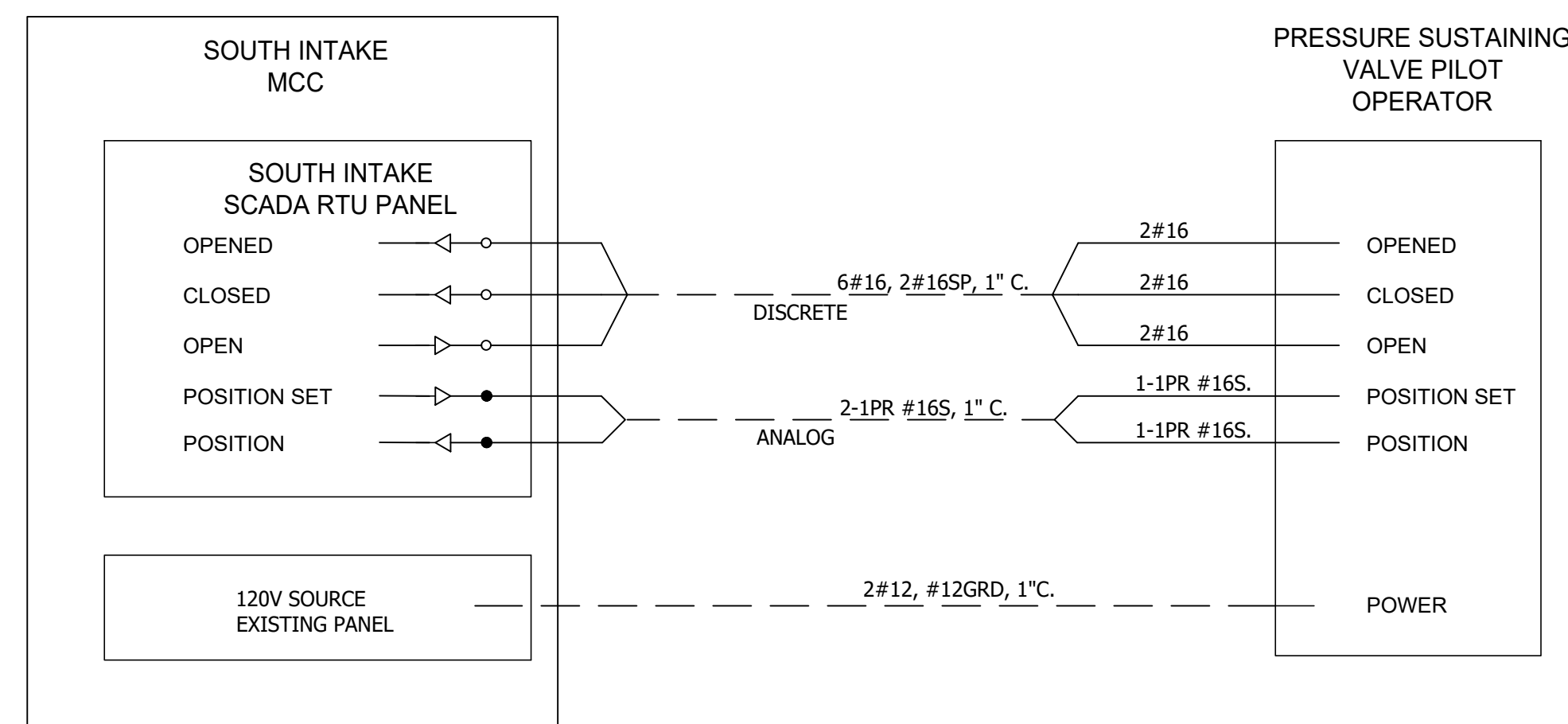
2 MULBERRY POND POWER ONE-LINE DIAGRAM
E-201 NO SCALE



3 FIBER OPTIC CABLE COMMUNICATION ONE-LINE DIAGRAM
E-201 NO SCALE

PANELBOARD LOAD SCHEDULE														
PANEL NAME: "MP-HP1"														
AMPERE RATING		100		INTERRUPTING RATING		4 WIRE		3 PHASE		10,000 AIC		SURFACE MOUNTED		
VOLTS		277/480		4		3		3		3		MAIN LUGS ONLY		
LOAD IN VOLT-AMPERES							LOAD IN VOLT-AMPERES							
CKT	O/C PROT.	SPARES	RECP.T.	LIGHTS	MOTORS	DESCRIPTION	PHASE	SPARES	RECP.T.	LIGHTS	MOTORS	DESCRIPTION	O/C PROT.	CKT
1	10/3						A						10/3	2
3					1500	VALVE MP-BV1	B							4
5							C							6
7	10/3						A						10/3	8
9					1500	VALVE MP-BV3	B							10
11							C							12
13	20/1					SPARE	A						10/3	14
15	20/1					SPARE	B				1500	VALVE MP-BV4		16
17						SPARE	C							18
19						SPARE	A						20/2	20
21						SPARE	B							22
23						SPARE	C				750	EXISTING	20/1	24
Load Classification				Connected Load		Demand Factor		Estimated Demand		Panel Totals				
MOTORS EQUIPMENT VALVES				7500 VA		100.00%		7500 VA		Total Conn. Load: 8500 VA				
MOTORS EQUIPMENT				500 VA		100.00%		500 VA		Total Demand Load: 8500 VA				
RECEPTACLES				0 VA		100.00%		0 VA		Total Design Load: 8500 VA				
LIGHTS				0 VA		125.00%		0 VA						
SPARES / FUTURE				500 VA		100.00%		500 VA						
										Total Conn. Current: 10.3 A				
										Total Demand Current: 10.3 A				
										Total Design Current: 10.3 A				

WEATHERPROOF NEMA 4X STAINLESS STEEL ENCLOSURE.



4 PRESSURE SUSTAINING VAVLE - CONTROL ONE-LINE DIAGRAM
E-201 NO SCALE

NOTE: UTILIZE EXISTING PUMP CONDUIT BETWEEN MCC AND PUMP LOCATION. EXTEND TO COMPONENT LOCATION ON VALVE.

ELECTRICAL CABINET ELEVATION NOTES

RETAIN EXISTING EQUIPMENT INCLUDING UNISTRUT RACK, CONCRETE PAD AND OVERHEAD SUN SHADE.

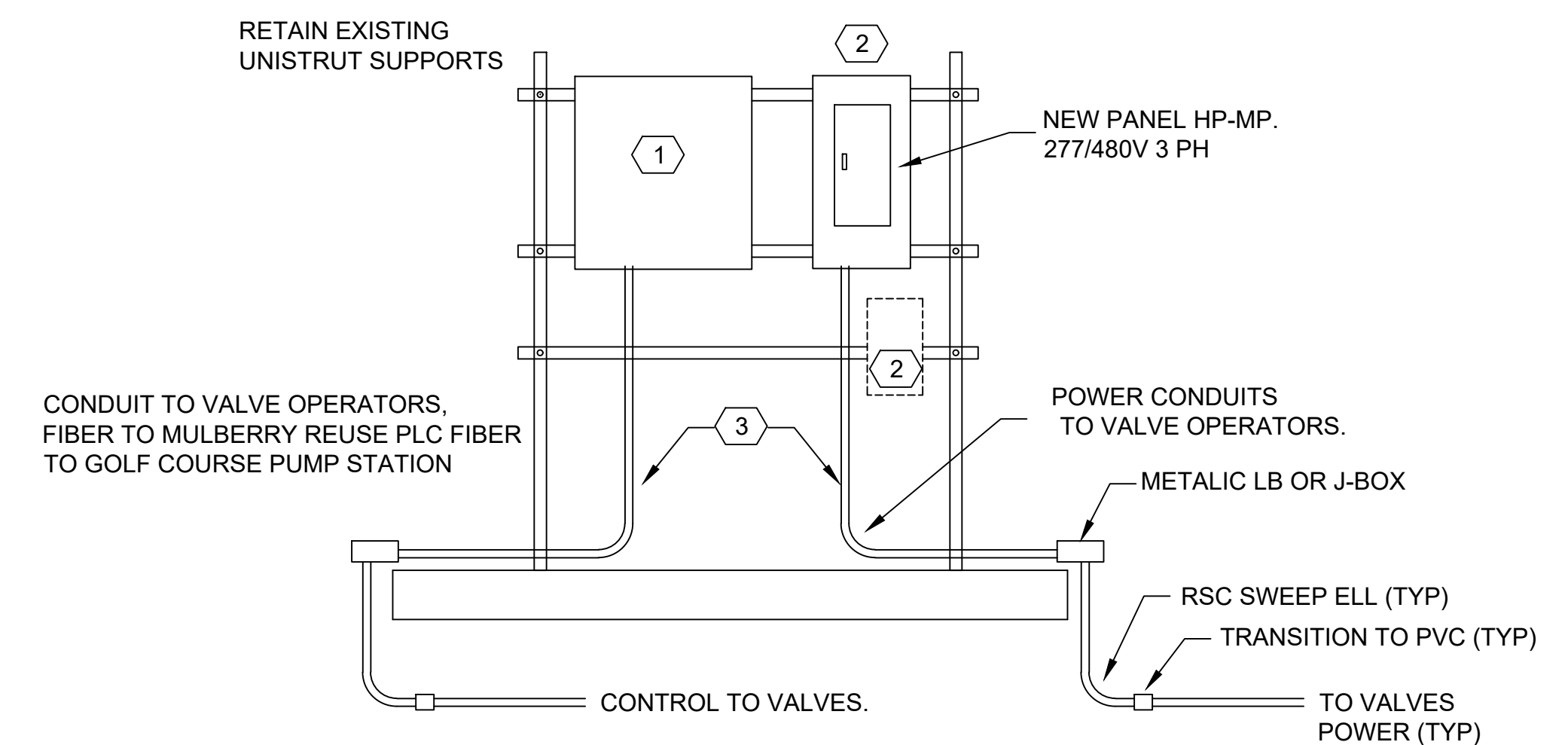
REFER TO ONE-LINE DIAGRAMS AND DETAILS FOR EXACT CONDUIT AND CONDUCTOR REQUIREMENTS.

ALL ABOVE GRADE EXPOSED CONDUIT TO BE RIGID STEEL.

EXISTING MULBERRY POND REMOTE I/O PANEL. RETAIN ENCLOSURE. REPLACE REMOTE I/O. PROVIDE NEW REMOTE I/O ON NEW BACKPANEL. NOMINAL 36" X 36" BACK PANEL. FIELD VERIFY DIMENSIONS AND MOUNTING METHOD.

REMOVE EXISTING 480V 3PH 30A DISCONNECT SWITCH. REPLACE WITH NEW 480V PANELBOARD HP-MP. CONNECT POWER SOURCE OF VALVE OPERATORS TO NEW PANEL.

NEW RIGID STEEL CONDUIT ABOVE GRADE. SURFACE MOUNT ON CONCRETE PAD. TRANSITION FROM BELOW GROUND PVC CONDUIT TO RIGID STEEL CONDUIT WITH RSC ELL BELOW GRADE. PROVIDE MASTIC WRAP FOR ALL RSC IN CONTACT WITH SOIL. TYPICAL ALL.



5 MULBERRY POND REMOTE I/O CABINET ELEVATION
E-201 NO SCALE



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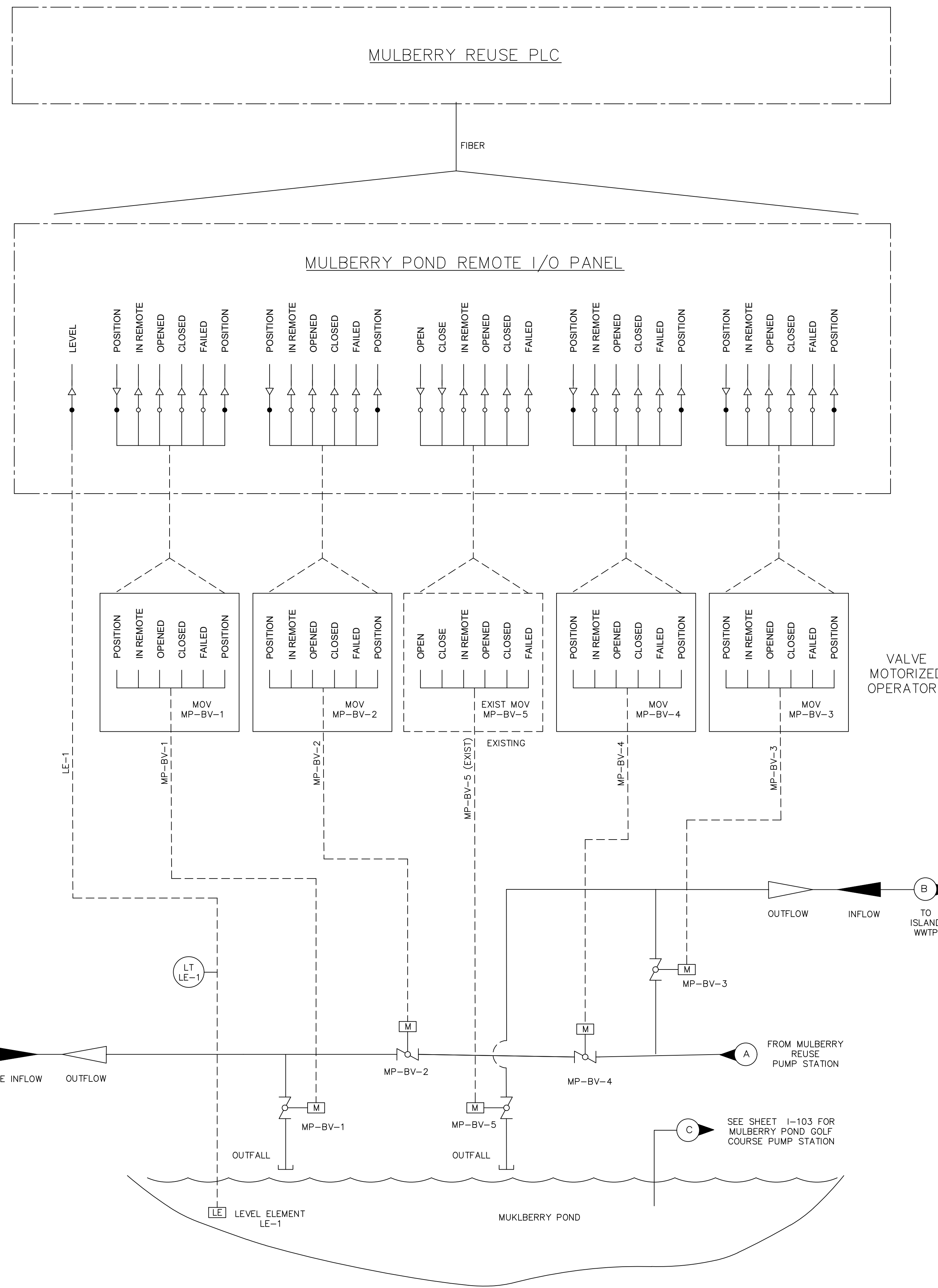
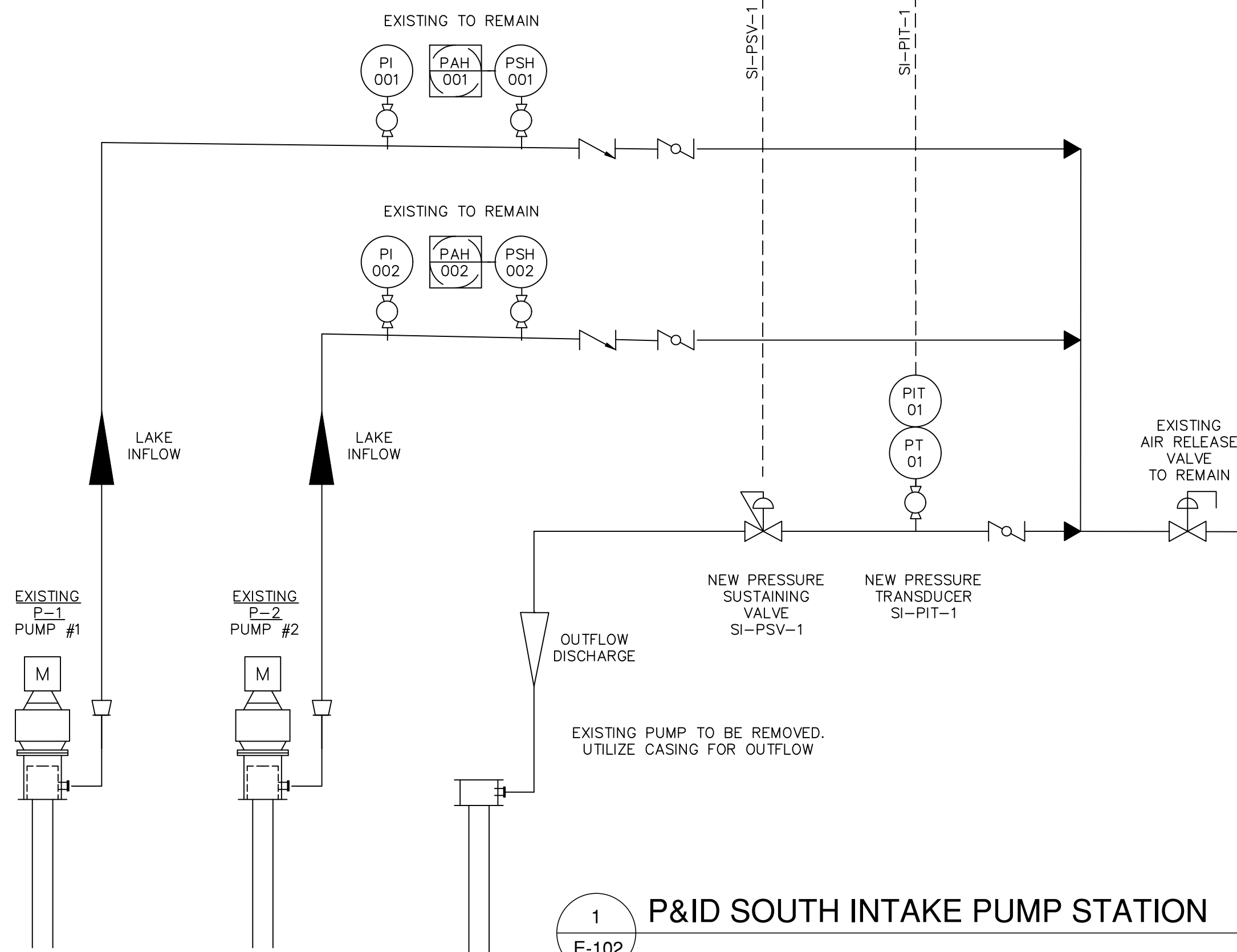
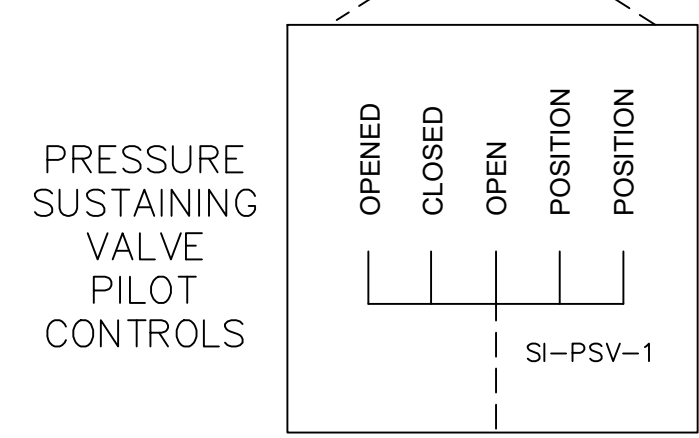
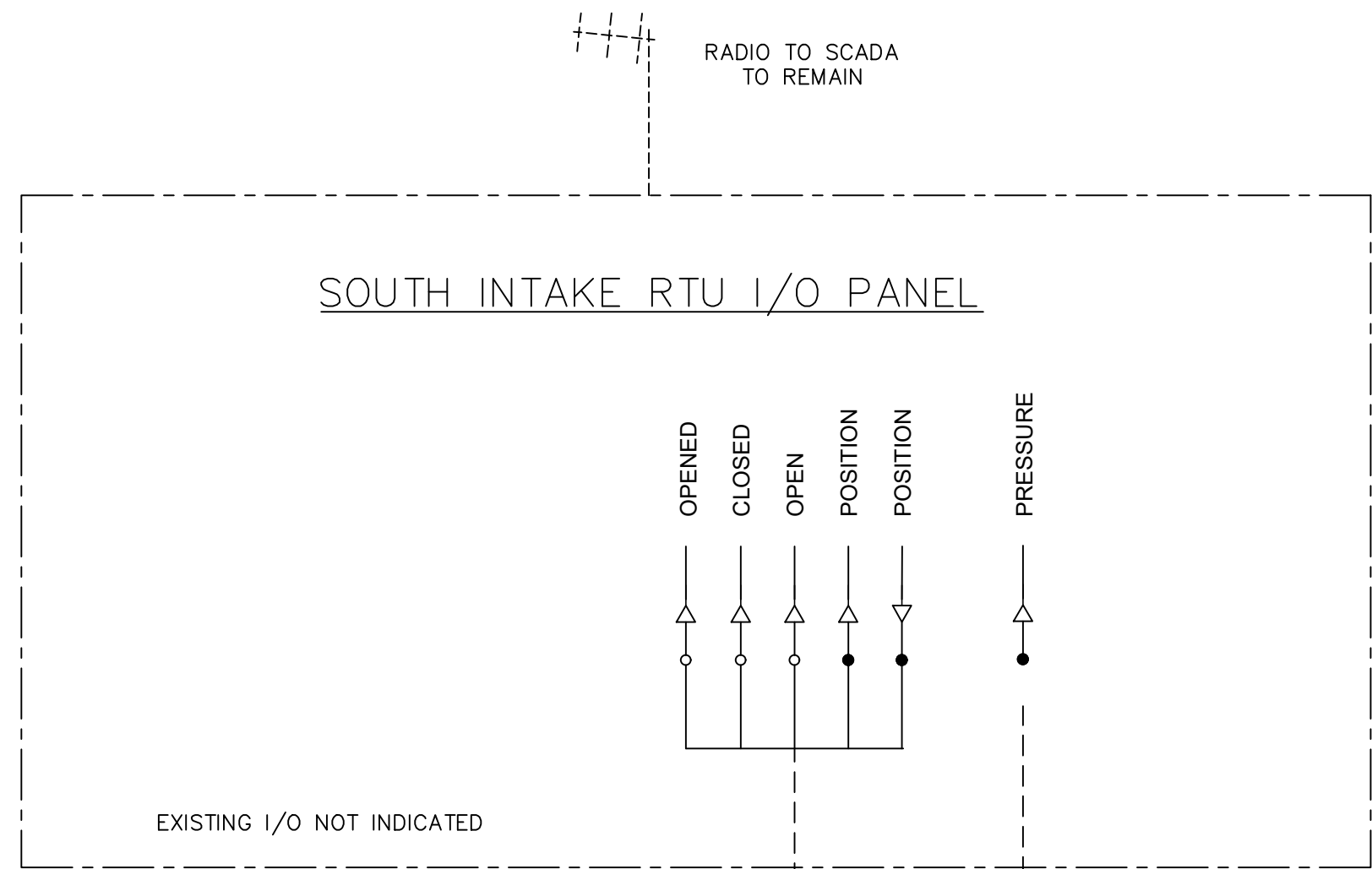
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JACOBS
ELECTRICAL
ONE-LINE DIAGRAMS AND DETAILS

VERIFY SCALE
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0 1"

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SHEET	10 of 13



TRICO ENGINEERING, LLC
 JOEL A. KATH
 License No. 02-22-2025
 ARIZONA, U.S.A.
 Expires 3-31-2028

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INSTRUMENTATION
 P&ID DIAGRAMS, DETAILS

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 0 1'

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SHEET	12 of 13

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